



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

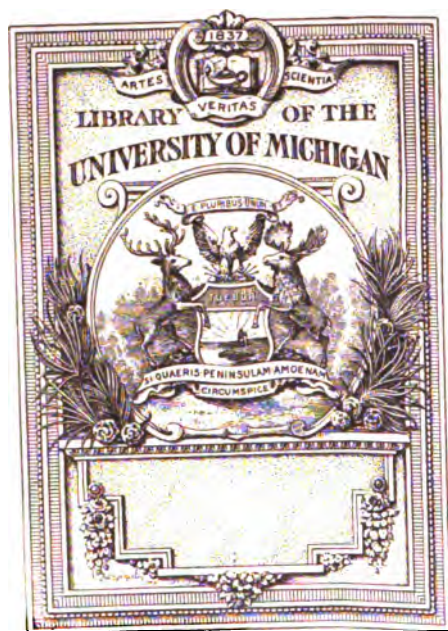
We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

B 50802 2 ^{DUPL}



40
2112

734
OFFICIAL REGISTER
OF
HARVARD UNIVERSITY

VOLUME III

JANUARY 30, 1906

NUMBER 4

REPORTS
OF
THE PRESIDENT AND THE TREASURER
OF
HARVARD COLLEGE

1904-05



CAMBRIDGE, MASS.
Published by Harvard University

21

REPORTS
OF
THE PRESIDENT AND THE TREASURER
OF
HARVARD COLLEGE
1904—05



CAMBRIDGE
Published by the University
1906

CONTENTS.

	PAGES
PRESIDENT'S REPORT	5-60
 REPORTS OF DEPARTMENTS:—	
THE FACULTY OF ARTS AND SCIENCES	61-104
THE COLLEGE	105-123
THE LAWRENCE SCIENTIFIC SCHOOL	124-127
ATHLETIC SPORTS	128-135
THE GRADUATE SCHOOL	136-168
THE DIVINITY SCHOOL	169-175
THE LAW SCHOOL	176-179
THE FACULTY OF MEDICINE	180-182
THE MEDICAL SCHOOL	183-200
THE DENTAL SCHOOL	201-204
THE BUSSEY INSTITUTION	205, 206
THE LIBRARY	207-235
THE GRAY HERBARIUM	236-240
THE BOTANIC GARDEN	241-245
THE ARNOLD ARBORETUM	246, 248
THE CHEMICAL LABORATORY	249-254
THE JEFFERSON PHYSICAL LABORATORY	255-257
THE DIVISION OF ENGINEERING	258-262
THE PSYCHOLOGICAL LABORATORY	263-265
THE OBSERVATORY	266-275
THE MUSEUM OF COMPARATIVE ZOÖLOGY	276-279
THE ZOÖLOGICAL LABORATORY	280-285
THE DEPARTMENT OF GEOLOGY AND GEOGRAPHY	286-293
THE DEPARTMENT OF MINING AND METALLURGY	294-298
THE MINERALOGICAL MUSEUM AND LABORATORIES OF MINERALOGY AND PETROGRAPHY	299, 300
THE PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY	301-306
THE SEMITIC MUSEUM	307-309
THE FOGG ART MUSEUM	310-314
THE GERMANIC MUSEUM	315-317
RADCLIFFE COLLEGE	318-322
APPENDIX	323-370
INDEX	371-376
 TREASURER'S STATEMENT	
	1-136

PRESIDENT'S REPORT FOR 1904-05.

TO THE BOARD OF OVERSEERS : —

The President of the University has the honor to submit the following report for the academic year 1904-05, — namely, from September 29, 1904, to September 28, 1905.

Edward Stickney Wood, Professor of Chemistry in the Medical School, died on the 11th of July, 1905, in the sixtieth year of his age. Dr. Wood was appointed assistant professor of chemistry in 1871, and at the end of his five-year term as assistant professor he was promoted to be full professor, being at the time thirty years old. He had received a very thorough training in medicine, having cherished a definite purpose to be a physician even before his entrance into Harvard College. When he entered on his duties as assistant professor, the Medical School was supplying instruction in general chemistry, and Professor Wood for years gave much of this elementary instruction; but he gradually developed valuable courses in medical chemistry proper, and before his death had seen all the resources of his department in the School devoted to that subject. As a teacher he was clear, systematic, and convincing. He bore a large part during the last thirty years in improving the teaching of chemistry as applied by medical practitioners and health officers; and he repeatedly served on public commissions in which a medical and chemical expert was needed. His most useful public service, however, was as an expert witness in murder trials. He had a remarkable knowledge of poisons and of the means of detecting their presence in the human body, and had also made a very careful study of blood stains. As a witness he was quiet, imperturbable, and evidently concerned only to declare the truth. His character, quite as much as his knowledge and skill, lent weight to

his testimony. His professional career covers a period during which the chemical means of diagnosis in disease were greatly enlarged and improved. These new means Professor Wood placed before the successive classes of medical students with steady earnestness and success.

At the close of the year Professor John Knowles Paine resigned the professorship of music which he had held since 1875. Professor Paine's first appointment in the University was that of University lecturer in the year 1863-64. In 1873 he was made assistant professor of music, from which post he was promoted in 1875. In the interval between 1864 and 1873 he was in the service of the University, though not on Corporation appointments. The Department of Music has been built up under his guidance. For many years he himself gave all the instruction in the Department; but it now counts several teachers, and a large and increasing body of students, and it has sent out a considerable number of Harvard graduates who make music their profession. The creation of the Department of Music in Harvard University is all the greater achievement, because it was a new field of work for the University, not supported by any living educational tradition like that which supports instruction in Hebrew, Greek, Latin, mathematics, and philosophy, and not especially congenial to the evolved or opened-out Puritans who for a hundred years have had the management of Harvard College.

Professor Paine has been not only a teacher of the theory of music, but a composer, or original producer in his subject. His career has illustrated the general truth that in a university the most influential professors are those who have creative or inventive capacity, and themselves contribute to the progress of knowledge and art.

Clement Lawrence Smith, Pope Professor of Latin, resigned his professorship on October 31, 1904, on account of failing health, having served as tutor, assistant professor, and professor from 1870 to 1904. He was also assistant to Dean Dunbar for three years (1879-1882), Dean of the College Faculty from 1882 to 1890, Dean of Harvard College from 1890 to 1891, and Dean of the Faculty of Arts and Sciences

from 1898 to 1902. Both as teacher and administrator Professor Smith was fortunate in his period of active service. It was a period of many interesting and far-reaching changes, to the safe guidance of which Professor Smith's thorough scholarship, calm judgment, and steady work effectively contributed.

The Statutes of the University were amended in 1904-05 as follows : —

In Statute 3 the title "Inspector of Grounds and Buildings" was substituted for the title "Superintendent of Buildings."

In Statute 6 the sentence "Any administrative board established for Harvard College shall consist of not less than fifteen members" was stricken out, in order that the administrative board for the College might be gradually reduced in number. For the current year it contains nine members.

In Statute 16 the clause relating to the provision at the expense of the College of seats for all students who attend the Sunday services of the several religious denominations having established places of worship in the immediate vicinity of the College was stricken out, and an addition was made to the statute which made it read in its new form as follows : "Daily prayers are held in the Chapel on week days, and an evening service on Sundays, during term time. Other services are held from time to time as the Board of Preachers to the University may determine."

Francis Greenwood Peabody, Plummer Professor of Christian Morals, who, in conjunction with the Board of Preachers, had had charge of the religious services of the University since May, 1886, asked to be relieved of this function in June last, in view of his proposed absence at Berlin, and of the increase in his duties as a teacher consequent on the endowment of the courses of instruction in his charge. The Corporation recognized the propriety of his request, although they regretted very much to lose his services in the conduct of Appleton Chapel, Professor Peabody having had general charge of the Chapel ever since attendance at religious services was made completely voluntary throughout the University. Many persons looked forward to this experiment with grave appre-

hensions, and prophesied its speedy failure. Its remarkable success has been due to Professor Peabody's good judgment and zeal and to the enthusiasm and cordial coöperation of the successive members of the Board of Preachers. In June last the President and Fellows voted "that Edward Caldwell Moore, Parkman Professor of Theology, have general charge of the services in Appleton Chapel in coöperation with the Board of Preachers until further order of the President and Fellows." Professor Moore is a Congregationalist. For about ninety years,—that is, ever since the College has maintained religious services distinct from those of the First Parish Church in Cambridge,—these services have been in the hands of members of the Unitarian body; although since 1881 ministers of many different denominations have been systematically employed as preachers in the College pulpit.

The committee appointed by the President and Fellows of Harvard College on May 16, 1904, to confer with a committee of the Executive Committee of the Corporation of the Massachusetts Institute of Technology concerning a possible combination of effort on behalf of technical education between the University and the Institute, held many meetings, considered the opinions of lawyers who represented various interests involved in the negotiation, and from time to time made informal reports to the President and Fellows concerning the progress of the negotiations. On the 26th of March, 1905, the committee on behalf of the President and Fellows notified the committee on behalf of the Institute that the committee representing the University believed that "a proposal for an arrangement upon the terms hereinafter set forth would be acceptable to the Corporation of Harvard University, and would be transmitted with its approval to the Board of Overseers." This proposal will be found in the Appendix (p. 341). The proposal was a conditional one, which could not be given effect "until, and unless, the University shall have applied to the Supreme Judicial Court for instructions, and the Court shall have made a decree that this agreement may be carried out without violation of its duties as a trustee, and in accordance with law and equity." On the 14th of June following

the President of the University received the following letter from the President of the Institute of Technology :—

Boston, June 13, 1905.

DEAR SIR :—

At a meeting of the Corporation of the Institute of Technology held on the 9th June, a vote was passed by a substantial majority, instructing the Executive Committee to announce to the President and Fellows of Harvard University the readiness of the Institute to propose an agreement in accordance with the plan submitted by the Conference Committee, provided that a favorable decision in regard to the Boylston St. land is first secured, and provided, also, that a clause is introduced into the agreement similar to that relating to the University relative to securing from the Supreme Judicial Court a decision as to the right of the Corporation of the Institute to make such an agreement.

This action commits the Institute, so far as it can be committed at present, to the plan of agreement under discussion: and so soon as the decision in regard to the Boylston St. land is rendered we shall at once communicate with you, in the hope that the matter may be taken up at the earliest opportunity by the Corporation of Harvard University.

In communicating this action let me express my own pleasure at the step, and my appreciation, at the same time, of the generous attitude of the Harvard members of the Conference Committee in the meetings which led to the formation of a tentative plan of agreement.

Yours sincerely,

(Signed) HENRY S. PRITCHETT.

President C. W. ELIOT.

This letter called for no action on the part of the President and Fellows of Harvard College, inasmuch as the readiness of the Institute to propose an agreement depended upon first securing two favorable decisions from the Supreme Judicial Court. Nevertheless, both Corporations had expressed a willingness to consider a tentative plan of agreement, which had been elaborated by a joint committee of the two bodies. Both Corporations intended to await certain decisions by the Supreme Judicial Court. On the 30th of October the following letter was communicated to the President and Fellows :—

President CHARLES W. ELIOT,

Harvard University, Cambridge, Mass.

MY DEAR PRESIDENT ELIOT, — I am directed by the Corporation of the Institute of Technology to communicate to you the fact that, in view of the recent decision of the Supreme Court of the state in the case of John

10 NEGOTIATIONS WITH THE INSTITUTE OF TECHNOLOGY.

Wilson *et al* vs. The Massachusetts Institute of Technology, the Corporation of the Institute finds it impossible to proceed with the plan of coöperation which was considered at its meeting of June 9.

In communicating this fact the Corporation desires at the same time to express its appreciation of the fairness and courtesy of the Corporation of Harvard University in our common effort to solve a difficult question.

I am,

Very sincerely yours,

(Signed) HENRY S. PRITCHETT, *President*.

OCTOBER 11, 1905.

Whereupon the Board

Voted, That the committee of conference appointed by this Board May 16, 1904, at the instance of the Corporation of the Massachusetts Institute of Technology be hereby discharged; and that the President be requested to express to the members of the two committees of conference the high appreciation by the President and Fellows of the foresight, good judgment, and public spirit of which the committees' project for a close affiliation between the Institute and the University gives evidence, and the regret of the President and Fellows that the project has been brought to naught by the recent decision of the Supreme Court, which makes it impossible for the Institute to place itself beside the University.

Voted, To acknowledge hereby the receipt of notice from the Corporation of the Massachusetts Institute of Technology that the negotiation with this Board started by the Institute May 4, 1904, is at an end.

It will be observed that the negotiation between the University and the Institute never passed out of the hands of the joint committee, and never extended beyond the formation of a tentative plan, which the two Corporations agreed to consider provided certain decisions of the Supreme Court should be first obtained. The President and Fellows never had the opportunity to discuss the matter with the Corporation of the Institute, and never had an unconditioned proposal to lay before the Faculty of Arts and Sciences or the Board of Overseers. For these reasons there was, from the side of the University, no public discussion of the subject. The negotiations failed because of an unfavorable decision of the Court concerning the right of the Institute to sell the land occupied by it on Boylston Street, Boston.

The principal event of the year 1904-05 was the raising by general subscription of the fund called the "Teachers' Endowment Fund." This enterprise was first suggested to the alumni by Bishop William Lawrence, President of the Alumni Association, at the Commencement dinner of 1904, when he reported to the assembled alumni the rates of teachers' salaries in Harvard College, and declared that the scale ought to be raised by means of an endowment to be provided by the alumni and friends of the University. In the following autumn a small committee of graduates was selected to undertake the work of raising two and a half millions of dollars, the chairman of this committee being Bishop Lawrence. This committee worked assiduously till Commencement Day, 1905, at first by means of private interviews and letters, but later by means of circulars sent to all living Bachelors and Masters of Arts. A copy of the circular issued will be found in the Appendix (p. 344). The class organizations were also utilized by the soliciting committee; but the work was conducted from first to last with but little publicity and with no exhortations through the press. On Commencement Day, 1905, Bishop Lawrence, as president of the great meeting of the alumni in Memorial Hall, announced that the purpose of the committee had been measurably accomplished, and that more than two millions of dollars had been already contributed to constitute a permanent fund for the increase of the teachers' salaries in Harvard College. When the new academic year opened, the President and Fellows found that they were already in possession of \$1,800,000, including a gift of \$100,000 from the Class of 1880, and that \$500,000 more had been pledged to come in gradually within a few years. Of the cash in hand \$1,000,000 came from certain large contributors in New York City.

The following letter is the official statement of the purposes of the Teachers' Endowment Fund:—

JUNE 28, 1905.

TO THE PRESIDENT AND FELLOWS OF HARVARD COLLEGE, 50 STATE STREET, BOSTON, MASS.:—

DEAR SIRS,—The Alumni and friends of Harvard, impressed with the insufficiency of the salaries of the teachers of the College, desire to present a fund, as a mark of their gratitude and affection, to be called the

"Teachers' Endowment Fund." The conditions of the gift are as follows:—

The Alumni and friends of Harvard University give this fund to the President and Fellows of Harvard College, to be called the "Teachers' Endowment Fund," the income to be used to increase salaries of teachers in Harvard College.

By "Harvard College" is meant the departments of instruction which are now under the direction of the Faculty called "The Faculty of Arts and Sciences."

The Committee have thought it wise to submit the terms of this gift to John C. Gray, Esq., of Boston, and the Honorable Joseph H. Choate, of New York, for their approval. We enclose their letters.

(Signed) WILLIAM LAWRENCE, *Chairman*,
F. L. HIGGINSON,
HENRY S. HOWE,
ROBERT BACON,
JAMES J. STORROW,
FRANCIS R. APPLETON.

This letter is memorable not only because it defines the object of a large permanent fund, but also because it gives a definition of Harvard College which is new and yet absolutely in harmony with the history of the three departments now under the direction of the Faculty of Arts and Sciences. The Graduate School has been, as a matter of fact, developed out of Harvard College by teachers in Harvard College at the cost of Harvard College; and the Lawrence Scientific School, whose early development was independent of that of Harvard College, has during the past twenty years been gradually blended with Harvard College, partly through the action of the Faculty and its administrative boards, but partly also by the social action of the undergraduates of Harvard College on the one hand and of the Lawrence Scientific School on the other. The Graduate School never had a separate budget of its own; and the budgets of Harvard College and of the Lawrence Scientific School have been merged for many years.

The phrase "to increase salaries" was intended to cover two sorts of increase,—first, increase of the scale of salaries throughout Harvard College; and secondly, increase of salaries in special cases, in order to facilitate promotions and to prevent the loss to other institutions of valued teachers.

A variety of phrases to express the object of the fund occurred on the subscription papers used by different solicitors; but none of these phrases were inconsistent with the terms of the above letter. Thus, in a paper which bore subscriptions to the amount of a million dollars the object of the new endowment was expressed in these words: "the income to be used for no other purpose than the support of the teaching force of the College."

The Corporation determined soon after the opening of the current year that the new fund would justify a rise in the scale of salaries in the following grades: (1) For instructors appointed without limit of time; (2) for assistant professors in the first term of five years; and (3) for professors on their first appointment as such. The most considerable increase (25 per cent.) is in the salary of the assistant professor during his first term of five years, the salary at this stage of an academic career having been the lowest of the series in proportion to the services rendered and to the probable and desirable annual expenses of the teacher. The Corporation were able to give a considerable number of the teachers the benefit of this new scale and also of an advancement in grade.

The Faculty of Arts and Sciences is, on the whole, a young Faculty. Half of the members are not more than forty years of age, and only one-thirteenth of them are oversixty (see Table I). Accordingly the number of routine advancements of salary is sure to be large during the next ten years; and, on the other hand, the number of retirements is sure to be small.

It was therefore necessary to reserve a portion of the present income of the Teachers' Endowment Fund for the maintenance of the new scale, the cost of which will be increased by the probable promotions of the next ten years. The increase in the scale of salaries seems only a moderate one; but the Corporation has certainly gone to the limit of prudence in raising the scale of salaries, because the second sort of increase of salaries — namely, provision for individual promotions — is very important to the welfare of the College, and must not be made impossible of execution because of the increases involved in a higher scale operating in a regular automatic way.

TABLE I.—AGES OF FACULTY MEMBERS, 1904-05.

Years	No. of Persons.	Years.	No. of Persons.	Full Professors not over 40 in 1905 = 10.
28 1	10	56 1	7	34 1
29 6		57 1		35 1
30 3		58 2		37 3
31 5		59 1		38 1
32 4		60 2		39 2
33 5	28	61 0	13	40 2
34 10		62 1		
35 4		63 3		
36 7		64 1		
37 10		65 1		
38 3	32	66 3	6	
39 3		67 0		
40 9		68 0		
41 2		69 0		
42 4		70 0		
43 3	48	71 1	4	
44 3				
45 4				
46 3				
47 3				
48 4	21			
49 8				
50 3				
51 2				
52 3				
53 5	14			
54 0				
55 4				
			138	

Of the 10, 4 came in as full professors, 1 as assistant professor, and 5 rose through all the grades.

One admirable effect of the new Teachers' Endowment Fund will be the decreased dependence on tuition fees in Harvard College; in other words, a larger proportion of the total sum paid to teachers will hereafter be derived from endowment. As was pointed out in last year's report, it is very desirable to diminish the dependence of the College on the receipts from students.

The occurrence of eight annual deficits of serious amount within the last ten years has caused the President and Fellows to make a careful examination of the increase in the number of students, of the constitution of the Faculty of Arts and Sciences by grades, of the normal rate of personal changes in the Faculty, and of the relation between the number of students and the number of teachers in the several grades. The following table shows how the number of students has increased in twenty-five years in the departments under the charge of the Faculty of Arts and Sciences, and in parallel columns how the

number of professors and assistant professors has increased year by year during the same period. The increase in the number of professors and assistant professors has never been so rapid as the increase in the number of students, except

TABLE II.

Year.	No. of Students in Harvard College L. S. S. and Grad. Sch.	No. of Professors in Faculty.	No. of Assistant Professors in Faculty.	
1880-81	923	27	13	Students Harv. Coll. . . . 843 " L. S. S. . . . 37 " Grad. Sch. . . . 43 923
1881-82	912	28	13	
1882-83	1013	30	13	
1883-84	1074	33	14	
1884-85	1104	35	13	
1885-86	1162	39	15	
1886-87	1161 ¹	39	13	
1887-88	1254	39	13	
1888-89	1310	39	14	
1889-90	1443	38	15	
1890-91	1552	40	14	
1891-92	1763	41	18	
1892-93	1985	46	18	
1893-94	2188	45	22	
1894-95	2233	43	23 ²	
1895-96	2396	45	24	
1896-97	2417	46	25	
1897-98	2516	49	24	
1898-99	2588	52	24	
1899-00	2723	55	27	
1900-01	2840	56	31	{ 4 profs. and 1 asst. prof. pd. by other departments.
1901-02	2844	56	29	
1902-03	3009	63	35	
1903-04	3023	68	39	{ 8 profs. and 1 asst. prof. pd. by other departments.
1904-05	2905 ³	71 ³	41 ⁴	

¹ Lowest number in the Lawrence Scientific School. 14 students in all; two regular students, one professor, and one instructor in Engineering.

² First year of the Departments of Architecture (one assistant professor) and Mining (one instructor).

³ Including two professors of Architecture, two of Mining and Metallurgy, and two of Engineering.

⁴ Including two assistant professors of Mining and Metallurgy, and five of Engineering.

⁵ Number of students in Harvard College 2009; in the Lawrence Scientific School 530; in the Graduate School 366.

during the past three years — 1902-03 to 1904-05 inclusive. During these three years the number of permanent teachers increased largely, while the number of students did not increase. In spite, however, of the unfavorable ratio of new permanent teachers to new students during the last three years, the result for the whole period is that the number of students has been multiplied by $3\frac{1}{10}$, whereas the number of professors and assistant professors added together has been multiplied by $2\frac{3}{10}$. The period covered by Table II includes the development of the Graduate School from a body numbering 43 students to a body numbering 366, the conversion of the Lawrence Scientific School from a declining group of special students into a large and well-organized school, and the multiplication of the number of students in Harvard College by $2\frac{3}{10}$. The development of the Scientific School involved numerous new salaries in the Departments of Mathematics, Engineering, Geology, and Mining and Metallurgy. During the same period the practice of including in the Faculty of Arts and Sciences professors whose compensation was derived, in whole or in part, from other departments — as, for instance, the Divinity School, the Law School, and the Peabody Museum — increased considerably, for the reason that undergraduate and graduate students in Arts and Sciences attended the courses of such professors. The gradual extension of this practice appears in the following statement: —

TABLE III.

Faculty of 1880-81, 2 Professors with salaries derived from other departments.				
"	1885-86, $2\frac{1}{2}$	"	"	"
"	1892-93, 5	"	"	"
"	1899-00, 5	"	"	"
	1 Professor $\frac{1}{2}$ whose pay was derived from other	"	"	"
	2 Professors $\frac{1}{2}$	"	"	"
" 1902-03, 5 Professors whose pay was derived from other departments.				
	1 Professor $\frac{1}{2}$	"	"	"
	1 " $\frac{1}{2}$	"	"	"
	1 " on half pay.			
" 1904-05, 6 Professors whose pay was derived from other departments.				
	1 Professor $\frac{1}{2}$	"	"	"
	1 " $\frac{1}{2}$	"	"	"
	1 Instructor	"	"	"
	2 Professors on half pay.			
	1 Professor without salary.			

In Table IV the division of the Faculty into professors, assistant professors, and instructors is compared for six years, between 1880 and 1905, which were years of decided increase in the total number of the Faculty. This table exhibits not only the growth of the old departments of the College but the advent of new departments, as, for instance, of Government, Education, Architecture, Forestry, and Anthropology. The department of Government, one of the new ones, has not increased in cost with the rapidity which the table would indicate, because two, and sometimes three, teachers who derive their entire salaries from the Law School are included in the table. These gentlemen give courses open to students registered under the Faculty of Arts and Sciences on such subjects as Constitutional Law, International Law, Insurance, and Contracts.

It may be seen in this table that the sum of the assistant professors and instructors in the Faculty often approaches and sometimes surpasses the number of the professors; whence it might be inferred that the teachers in the Harvard Faculty were younger or less experienced men than the full professors who almost exclusively compose the Faculties of smaller colleges. This inference would be incorrect. The assistant professors and instructors in the Harvard Faculty are in regard to age and experience just such men as receive forthwith the title of professor in the smaller colleges, and they are paid higher salaries than full professors in many American colleges. There is no foundation in fact for the notion that students in small colleges come under the influence of more experienced and learned teachers than do students in large colleges.

The most remarkable change in the composition of the total body of teachers in Harvard College has taken place, not in the upper grades—the grades of permanent employment,—but in the lower—the grade of annual instructor and the grade of assistant. Table V shows how rapid and large has been the increase in the number of teachers called annual instructors and assistants. This development, which is of great import, was already considerable twelve years ago.

TABLE IV. — FACULTY MEMBERS, 1880-1905.

P. = Professor. A. = Assistant Professor. I. = Instructor.

DEPARTMENTS.	1880-81.			1885-86.			1892-93.			1899-1900.			1902-03.			1904-05.		
	P.	A.	I.	P.	A.	I.	P.	A.	I.	P.	A.	I.	P.	A.	I.	P.	A.	I.
Semitic	1			2			2			2			2			2		
Indic	1			1			1			1			1			1		
Classics	4	3	5	6	2	2	7	1	2	5			8	4	1	9	3	2
English	2			3	1	2	3	2	3	2			4	5	6	3	6	3
Germanic	1	2	2	1	1	1	3	1	3	1			4		3	1	1	1
Romance Languages	1	1		2	2		2	4	1	1			3	4	1	3	4	1
Slavic																		
History and Government	2		3	3	2		2	3	2	3			10	2		12	2	1
Economics	1						3		1	3			3		3	3	4	
Philosophy	2	1		1	1		6		1	6			6	1		6	1	3
Education				5	1		1			1			1		1	1	1	1
Fine Arts	1		1	1		1	1						1			1		1
Architecture													1		2	2		1
Music	1			1			1			1			1		1	1		
Mathematics	1	2	1	3	1		4		1	3			3		3	5	2	3
Astronomy																		
Physics	3		1	3		2	1	1	1	1			2	1		2	1	3
Chemistry	1	2		3			3		1	2			3	1	1	3		3
Engineering	1						1			1			2	4	2	2	5	
Forestry																		
Botany	2			2			2	1		2			3	1		4	1	1
Zoology			1	1	2		2			1			1		1	1	2	
Geology	2		1	2	1		3			2			2	3	1	2	4	
Mineralogy								1	1	1			1	1		1	1	
Mining and Metallurgy										1			1	1		2	2	1
Anthropology							1			1			1		2	1		1
Anatomy and Physiology		2			1										1			1
	27	13	15	39	15	7	46	18	13	55	27	24	64	35	31	71	41	28

TABLE V.

	1880-81.	1885-86.	1892-93.	1899-00.	1902-03.	1904-05.
Annual Instructors	12	18	39	66	73	64
	(2) ¹	(4) ¹	(13) ¹	(26) ¹	(38) ¹	
Assistants	7	8	34	70	86	64
	(0) ¹	(2) ¹	(2) ¹	(19) ¹	(21) ¹	
Austin Teaching Fellows				8	17	31
				(4) ¹	(5) ¹	

¹ Now in service.

Thus, there were six times as many annually appointed instructors in 1902-03 as there were in 1880-81; and there were twelve times as many assistants in 1902-03 as there were in 1880-81. This great increase is due in part to the increase in the number of students, but chiefly to the desire of the Faculty to have the instruction given by professors and assistant professors followed up and repeated by young instructors who come into close personal relation with the individual student. The figures of 1904-05 show a decided diminution in the number of both annually appointed instructors and assistants, the loss in the latter case being partly made good by an increase in the number of Austin Teaching Fellows. This inexpedient contraction was a measure of economy. The annual appointees are, for the most part, young graduates, — advanced students in their several departments who are a few years older than the young men whom they instruct. The employment of a large number of these young teachers is one of the greatest improvements made in recent years by the Faculty of Arts and Sciences. They have two functions, which are somewhat distinct. For zealous students they supply individual instruction and guidance in addition to the professors' teachings in the lecture-room. On the lazy or unambitious student they exert a steady pressure which obliges him to do some work from day to day, and helps him over difficulties due to inattention or lack of interest. The experience is ordinarily helpful to the young teacher as regards his own mastery of his subject and his own character and personal influence. A considerable proportion of the annual appointees enter the profession of teaching — some in Harvard University, as the table shows, but more in the service of other institutions.

The annual charge for the salaries of annual appointees under the Faculty of Arts and Sciences has become very heavy. In 1880-81 the amount so paid was \$12,150; in 1902-03 it was \$100,110. This is an educational improvement which is well worth what it costs; but it would be perfectly fair to say that the increase of the annual charges for annual appointees would by itself account for all the eight deficits of the last ten years. To illustrate this proposition by the facts in a single department: in 1895-96 there were eight assistants in the Department of History and Government, who performed nearly 3,000 hours of work during the year and received \$2,500 as compensation; in the year 1905-06 there are seventeen assistants in the same department, who are expected to perform 7,234 hours of work and whose compensation will be \$5,700. It is the belief of the Faculty and of its administrative officers that a method of teaching has been thus developed which is applicable to large classes, justifies the academic lecture, makes the continuance of that form of instruction wholly desirable, and trains for every variety of departmental teaching a steady stream of advanced students. It is part of the method that the annual appointees should be young and rapidly replaced. They should work with small sections or with the individual student. Many of them work in both ways.

The rate at which the membership of the Faculty changes is an important element in the general question of increase of salaries, especially if the University is to have, through the Carnegie Foundation or otherwise, an adequate provision of retiring allowances. Table VI sheds some light on this subject of replacement. It appears that in twenty years more than half the members of the Faculty disappear, and that in any five years from one-sixth to one-fourth of the members of the Faculty will disappear. During the greater part of the period covered by this table no system of retiring allowances was in force; so that, in all probability, changes will be more rapid hereafter than they have been since 1880-81. In a service having long probations and life tenures for well-proved persons only, the replacement of a large staff is more rapid than is generally supposed.

TABLE VI.

Faculty 1880-81 = 56 Members.

Dead, August, 1905 :—

Professors	13	
Assistant Professors	4	
Instructors	<u>1</u>	18

Otherwise gone :—

Professors	7	
Assistant Professors	3	
Instructors	<u>7</u>	<u>17</u> 35 = 62½ %

Faculty 1885-86 = 62 Members.

Dead, August, 1905 :—

Professors	14	
Assistant Professors	1	
Instructors	<u>0</u>	15

Otherwise gone :—

Professors	10	
Assistant Professors	6	
Instructors	<u>3</u>	<u>19</u> 34 = 55 %

Faculty 1892-93 = 78 Members.

Dead, August, 1905 :—

Professors	8	
Assistant Professors	0	
Instructors	<u>1</u>	9

,Otherwise gone :—

Professors	13	
Assistant Professors	3	
Instructors	<u>5</u>	<u>21</u> 30 = 38½ %

Faculty 1899-1900 = 107 Members.

Dead, August, 1905 :—

Professors	4	
Assistant Professors	0	
Instructors	<u>1</u>	5

Otherwise gone :—

Professors	8	
Assistant Professors	5	
Instructors	<u>9</u>	<u>22</u> 27 = 25¼ %

Faculty 1902-03 = 132 Members.

Dead, August, 1905 :—

Professors	1	
Assistant Professors	0	
Instructors	0	1

Otherwise gone :—

Professors	4	
Assistant Professors	2	
Instructors	7	13
		14 = 10 $\frac{4}{13}$ %

Five-year changes in Faculties of four different dates.

Members gone in 5 years from Faculty of 1880-81 =	12	21 $\frac{1}{10}$ %
“ “ “ “ 1885-86 =	12	20 %
“ “ “ “ 1892-98 =	13	16 $\frac{2}{3}$ %
“ “ “ “ 1899-00 =	25	28 $\frac{1}{2}$ %

It will be seen in Table II that the number of students under the charge of the Faculty of Arts and Sciences increased in every year after 1881-82 until the year 1904-05, when there was a loss of 118 students. During the current year there is a similar loss of 108 students. The regular Freshman classes of the College and the Scientific School were smaller in 1904-05 than in 1903-04, and again they were smaller in 1905-06 than in 1904-05. This diminution in the number of students, coming at a time when the annual expenditures of the departments under the charge of the Faculty of Arts and Sciences have been exceeding the receipts in those departments, presents a new embarrassment. Its causes are probably complex, and they take effect in Massachusetts and the adjacent states rather than at a distance from the College.

Table VII, on the geographical distribution of students in Harvard College, brings out the fact that, whereas there has been no durable gain in the number of students from New England, or from Massachusetts by itself, for five years past, there has been a considerable gain in the number of students from New York, New Jersey, and Pennsylvania, and from outside New England, in spite of a decline of numbers from Ohio, Illinois, and Missouri.

The diminution in the size of the Senior classes of Harvard College due to graduation in three years goes far to account for the total loss of students in Harvard College proper.

TABLE VII.—GEOGRAPHICAL DISTRIBUTION OF STUDENTS OF HARVARD COLLEGE PROPER.

	1894-95.	1899-00.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
North Atlantic*	1332	1536	1621	1585	1678	1659	1625
South Atlantic	44	40	40	47	58	52	50
South Central	22	29	30	35	38	34	33
North Central	203	237	238	252	264	256	225
Western	39	38	36	37	42	42	47
Dependencies	1	10	7	6	7	7	6
Foreign	26	12	20	21	22	23	23
Total	1667	1902	1992	1983	2109	2073	2009
 New England	 1041	 1181	 1235	 1176	 1240	 1216	 1162
Massachusetts	939	1070	1113	1054	1118	1097	1052
N. Y., N. J., Pa.	291	355	386	409	438	443	463
Outside New England	626	721	757	807	869	857	847
Outside North Atlantic	335	366	371	398	431	414	374
New York	211	248	272	285	305	309	314
Pennsylvania	55	76	82	86	93	94	106
Ohio	43	62	71	83	82	84	70
Illinois	58	68	65	66	65	56	49
Missouri	26	42	32	34	29	27	22

Thus, in 1902-03 the Senior Class numbered 381; in 1905-06 it numbers only 242. Comparing the numbers of students in the Lawrence Scientific School in the same years, it appears that that School has lost 80 students, undoubtedly because of the raising of the standards of admission to the School and of the standards of attainment within it. It has been an unfortunate coincidence that just at the time when the teaching body was enlarged, the student body began to shrink. Both the Corporation and the Faculty have given diligent attention to this state of things and have devised various measures which tend to remedy it. Some of these have already gone into effect, but the more important will not begin to take effect till the next academic year. Further endowment is the only thoroughly satisfactory and permanent remedy. To diminish the expenditure upon the College, or the Scientific School, means an inevitable impairment of its teaching power. To

* The sectional divisions are those employed in the reports of the U. S. Commissioner of Education.

increase the tuition fees is, in the judgment of many of the friends of the College, to impair its democratic quality, and in the long run to diminish its influence. It may seem strange to urge the need of further endowments immediately after the receipt of the large Teachers' Endowment Fund; but the fact is that, although that fund will improve the conditions of the College service and the prospects of the present staff, thereby increasing for young men the attractions of the career of a Harvard teacher, the income of that fund is not applicable to charges already incurred, or to any expansions of the work of the College, however legitimate.

The educated public, and particularly all men concerned with the management and direction of colleges and universities, need to understand the new position of the degree of Bachelor of Arts in the American universities. Its position has changed in important respects within recent years. The table on pages 26, 27, and 28 (Table VIII) is intended to exhibit the changes in practice in regard to this degree, during the past fifteen years, at fourteen institutions of different types.

It is to be noticed, in the first place, that several institutions have given up some of the degrees of comparatively recent creation, such as Bachelor of Letters and Bachelor of Philosophy. The University of Michigan gave up the degrees of Bachelor of Letters and Bachelor of Philosophy after 1900. Cornell University discontinued the degree of Bachelor of Letters in 1899, and the degrees of Bachelor of Philosophy and Bachelor of Science in 1900. At the University of Wisconsin, the degree of Bachelor of Letters, and, in part, the degree of Bachelor of Science, were discontinued after 1903. At Dartmouth College, the course for the degree of Bachelor of Letters was merged in the course for the degree of Bachelor of Arts after 1902; and after 1904 candidates for the different degrees available for undergraduates were all entered on one list. At Oberlin College the Ph.B. and S.B. both ceased to be conferred in 1900. At the University of Nebraska, the degree of Bachelor of Agriculture was discontinued fourteen years ago, and the degrees of Bachelor of Letters and Bachelor of Civil Engineering thirteen years ago.

In spite of this partial withdrawal of several of the newer degrees, the annual number of new degrees conferred is now larger than the number of A.B. degrees at Cornell, Pennsylvania, California, Brown, and Chicago. At Yale, Dartmouth, and Harvard, where only a single degree is now used in competition with the A.B. degree, the number of A.B. degrees conferred has not kept pace, during the fifteen years covered by the table, with the number of the other degree conferred. At the University of Wisconsin the number of degrees of Bachelor of Arts conferred was insignificant down to 1903, when the degree of A.B. was suddenly made much more accessible. At Princeton and Columbia the new degrees conferred have increased in number more rapidly than the A.B. degrees conferred. At the University of Michigan, the legislation of 1900 has apparently reinforced effectually the A.B. degree; but the number of S.B. degrees conferred by that University has more than doubled within the last five years. Oberlin never conferred any considerable number of Ph.B. or S.B. degrees, and has used only the A.B. since 1900; while at the University of Nebraska the position of the A.B. degree is very strong in comparison with that of the S.B., which is the only survivor of the four new degrees which were formerly used at this University.

It appears, then, from this table, that the new degrees, which were freely set up from thirty to sixty years ago at many American institutions, have already been in large measure abandoned, and that the present tendency is to offer undergraduates a choice between two degrees only. Simultaneously, the terms on which the A.B. degree may be obtained have been widened at many institutions. In spite of these changes, the degree of A.B. does not dominate the entire field of undergraduate study, partly because it is not yet attainable through a sufficient variety of studies, and partly because at many institutions undergraduate study can be given a professional direction from the early years of the course by young men who know from the start the profession they are destined for. The quality of such semi-professional courses may be more accurately indicated by the degree of Bachelor of Science or Bachelor of Philosophy than

TABLE VIII.—CHANGES IN THE USE OF THE A.B. DEGREE, 1890-1906.

	1890-91	1891-92	1892-93	1893-94	1894-95	1895-96	1896-97	1897-98	1898-99	1899-00	1900-01	1901-02	1902-03	1903-04	1904-05
UNIVERSITY OF MICHIGAN. ¹	232	259	255	237	248	249	269	300	292	329	1106	1178	1172	1193	1229
Do. Lit.B., S.B., or Ph.B. . .	680	763	876	842	945	969	985	1047	1013	1045	349	471	590	801	983
A.B. degrees conferred	55	62	73	60	66	57	64	79	62	63	242	277	281	293	313
Litt.B., S.B., and Ph.B. degrees conferred .	94	105	132	133	172	195	176	216	216	231	41	38	75	100	91
UNIVERSITY OF YALE	832	888	966	1046	1150	1199	1237	1241	1224	1224	1190	1240	1205	1250	1275
Students studying for the degree of A.B. . .	374	451	516	585	656	570	553	543	567	571	610	675	738	837	871
Students studying for the degree of Ph.B. . .	185	182	176	239	248	271	287	285	291	316	248	284	308	280	283
A.B. degrees conferred	89	102	109	143	163	158	172	110	139	135	142	132	133	174	166
Ph.B. degrees conferred	124	139	139	136	136	149	172	305	631	680	755	806	795	734	684
UNIVERSITY OF CORNELL	890	981	1049	1079	1035	1060	1049	1007	686	774	844	983	1143	1290	1445
Do. Ph.B., Litt.B., S.B., C.E., or M.E.	23	35	39	26	29	31	39	42	50	53	129	189	181	212	181
A.B. degrees conferred	164	208	213	181	207	234	248	206	209	237	159	141	195	177	244
Ph.B., Litt.B., S.B., C.E., and M.E. do. . .	105	89	100	129	118	155	164	180	174	170	186	208	221	244	244
UNIVERSITY OF PENNSYLVANIA. ³	357	248	282	332	414	352	335	339	322	333	381	406	493	584	662
Students studying for the degree of A.B. . .	13	15	22	24	15	17	17	18	20	16	27	21	27	24	28
Do. Ph.B., S.B., or Mus. Bac.	26	44	60	45	79	59	71	64	94	81	96	92	96	137	122
A.B. degrees conferred	231	246	262	237	224	230	239	300	362	408	411	436	438	452	521
Ph.B., S.B., and Mus. Bac. degrees conferred .	231	246	262	237	224	230	239	300	362	408	411	436	438	452	521
UNIVERSITY OF COLUMBIA	50	37	69	65	55	72	78	67	59	80	96	109	101	102	105
Students studying for the degree of M.E., C.E., Ph.B., S.B., Met.E., Mech.E., or E.E. in the Schools of Applied Science .	39	45	38	52	65	58	62	60	65	60	92	94	87	117	103
A.B. degrees conferred	242	277	337	324	361	340	365	397	406	435	496	571	642	653	572
M.E., etc., do. (except in Teachers College)	242	277	337	324	361	340	365	397	406	435	496	571	642	653	572

PRINCETON UNIVERSITY. ⁴	Students studying for the degree of A.B. . .	504	559	600	595	558	544	522	553	607	652	725	730	722	687	638
	Do. do. E.E., S.B., or C.E. . .	155	223	281	311	331	308	307	306	303	323	364	438	498	522	558
	A.B. degrees conferred	118	126	113	150	149	162	126	120	127	144	153	170	152	189	167
UNIVERSITY OF WISCONSIN. ⁵	E.E., S.B., Litt.B., and C.E. degrees conferred	10	22	20	32	55	47	65	69	62	53	61	82	73	89	60
	Students studying for the degree of A.B. . .	46	49	48	43	42	61	75	76	97	93	77	68	68	104	115
	Do. do. Litt.B., S.B., or Ph.B. . .	390	429	488	539	651	798	850	800	890	973	1139	1223	1383	818	866
UNIVERSITY OF CALIFORNIA.	A.B. degrees conferred	11	8	12	12	12	12	13	11	16	21	25	22	21	176	194
	Litt.B., S.B., and Ph.B. degrees conferred .	80	67	117	127	141	140	146	160	176	196	181	237	251	115	142
	Students studying for the degree of A.B. . .	50	62	65	80	102	108	138	175	200	245	258	265	266	216	202
BROWN UNIVERSITY.	Do. do. Litt.B., S.B., or Ph.B. . .	269	319	373	475	699	848	907	958	989	1140	1346	1501	1787	1862	1914
	A.B. degrees conferred	11	11	10	18	22	18	21	30	35	38	57	66	64	64	51
	Litt.B., S.B., and Ph.B. degrees conferred .	43	48	63	77	87	115	137	161	171	183	219	214	301	311	294
UNIVERSITY OF CHICAGO. ⁶	The degrees towards which students are studying are not specified.															
	A.B. degrees conferred	49	47	52	63	65	70	88	70	87	82	65	82	67	73	84
	Ph.B., S.B., C.E., and M.E. degrees conferred	15	11	9	20	38	40	52	56	87	64	62	72	72	80	87
UNIVERSITY OF CHICAGO. ⁶	Students studying for the degree of A.B. . .			112	174	226	262	279	303	346	343	348	318	289	252	238
	Do. do. S.B. or Ph.B.			95	205	259	373	399	442	555	659	850	966	1044	1116	1197
	A.B. degrees conferred			10	14	29	51	55	59	78	74	79	114	86	75	60
DARTMOUTH COLLEGE. ⁷	S.B. and Ph.B. degrees conferred			5	11	23	52	74	86	93	88	180	173	184	195	207
	Students studying for the degree of A.B. . .	195	197	178	195	190	197	234	247	296	332	317	297			
	Do. do. Litt.B. or S.B.	124	129	135	152	154	181	228	261	281	290	319	366			
	A.B. degrees conferred	40	46	48	47	41	28	57	37	55	62	62	77	85	60	88
	Litt.B. and S.B. degrees conferred	17	20	20	39	27	26	33	30	48	53	57	54	47	63	49

	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-00.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
OBERLIN COLLEGE.	Students studying for the degree of A.B. . .														
	Do. Ph.B. or S.B.														
	210	173	222	220	248	277	255	252	244	236	235	465	522	567	589
	229	148	124	135	97	130	141	144	142	143	156				
UNIVERSITY OF NEBRASKA. ⁹	A.B. degrees conferred														
	Ph.B. and S.B. degrees conferred														
	35	23	46	42	29	49	66	52	56	54	73	77	100	95	115
	26	27	29	51	5	23	20	30	36	29					
HARVARD UNIVERSITY.	Students studying for the degree of A.B. . .														
	Do. S.B., Litt.B., B.C.E., B.Agr.														
	50	176				335	419	505	483	536	613	700	819	753	755
	138	92				202	263	295	266	287	285	286	385	424	461
	A.B. degrees conferred														
	S.B., etc., degrees conferred														
	11	9	30	31	54	46	66	96	90	95	76	109	149	138	114
	17	26	12	13	12	27	38	46	33	35	33	39	45	34	35
	Students studying for the degree of A.B. . .														
	Students studying for the degree of S.B. . .														
	1198	1287	1449	1494	1499	1611	1594	1650	1683	1708	1841	1842	1987	1936	1862
	35	48	100	142	204	236	292	319	351	416	425	462	464	428	402
	Number of A.B. degrees conferred														
	Number of S.B. degrees conferred														
	284	293	335	350	360	392	380	391	443	404	457	422	511	459	425
	2	7	9	19	23	29	25	29	46	59	75	76	101	77	91

Litt.B. and Ph.B. courses merged in A.B. course after 1900.

² Litt.B. discontinued in 1896; Ph.B. and S.B. in 1900; all in favor of A.B.

³ From 1893-94, students in the Courses in Arts and Science in the University of Pennsylvania who do not take Latin and Greek through the Freshman and Sophomore Years receive the degree of Bachelor of Science.

⁴ The degree of Litt.B. was first granted in 1900, to 9 men; most of those upon whom it was conferred had been Special Students in the Academic Department.

⁵ Litt.B. and (in part) S.B. degrees discontinued after 1902.

⁶ Opened October 1, 1902.

⁷ Litt.B. course merged in A.B. course after 1904. Degrees for which students are studying not specified after 1902.

⁸ Ph.B. degree 1887-1900; S.B. degree 1892-1900.

⁹ B.Agr. discontinued in 1891; Litt.B. and B.C.E., in 1902. Degrees for which students are studying not specified, 1892-95.

by the traditional degree of Bachelor of Arts. Moreover, the requirements for admission to the course which leads to the degree of S.B. or Ph.B. have been at many institutions decidedly lower than those for admission to the A.B. course. It is for such reasons as these that at Harvard and Yale, where only a single degree competes with the A.B., the development of the newer degree has of late years surpassed the development of the A.B. degree. It is interesting to observe that at Yale University the number of A.B. degrees conferred in 1903-04 or in 1904-05 was not so large as the number conferred in any of the years between 1897 and 1900 inclusive, while at Harvard the number of A.B.'s conferred in 1905 was not so large as it was in 1899, 1901, 1903, or 1904. Nevertheless, many indications may be found in Table VIII that the A.B. degree, if further widened in meaning, and made much more accessible than it has heretofore been in the majority of American institutions, is not unlikely to become before long the sole degree used by colleges and universities to crown the period of undergraduate study. The new scientific professions will acquire significant degrees of their own; but these will be reserved, in the best institutions, for graduate work.

The attention of the Overseers is invited to the interesting description of the capacities and tendencies of the Faculty of Arts and Sciences by its Dean (see pp. 103, 104). The difficulties arising from the increased size of the Faculty have been overcome by the creation of Administrative Boards, the organization of Divisions and Departments within the Faculty, and the appointment of more administrative officers with larger discretionary powers.

The accompanying table of enrolments in half-courses and whole courses provided by the Faculty of Arts and Sciences in 1904-05 is arranged by departments, the names of which are given in the column on the left, to the number of 27. Some of these departments, however, include subjects that are not perfectly described by the brief titles given; thus, astronomy is included under mathematics, landscape architecture under architecture, and metallurgy under mining. The title classics includes Greek and Latin.

It appears in this table that the departments resorted to by large numbers of students are classics, English, German, French, history and government, economics, philosophy, chemistry, and engineering. Mathematics and physics stand in a second rank, and all the other departments in a third rank. The comparative neglect of the natural sciences and the fine arts is striking.

TABLE IX.—FACULTY OF ARTS AND SCIENCES—
ENROLMENTS BY DEPARTMENTS.

Department.	Enrolments in Half Courses.	Enrolments in Whole Courses.	Total.
Semitic	21	172	182.5
Indic Philology	19	..	9.5
Classics	229	650	864.5
English	1376	915	1603.
Public Speaking	187	55	148.5
Germanic Languages, etc.	79	905	944.5
Romance Languages, etc.	96	1010	1058.
Slavic	70	10	45.
History and Government	619	1535	1844.5
Economics	957	813	1291.5
Philosophy	251	509	634.5
Education	44	63	85.
Fine Arts . . . . .	..	222	222.
Architecture	79	278	317.5
Music	10	197	202.
Mathematics	336	286	454.
Physics	53	410	436.5
Chemistry	298	599	748.
Engineering	1320	516	1176.
Forestry	48	17	38.5
Botany	321	5	165.5
Zoölogy	278	44	183.
Geology	469	74	308.5
Mineralogy	10	46	51.
Mining	247	29	152.5
Anthropology	44	236	258.
Anatomy . . . . .	..	139	139.
Total	7456	9735	13,463.

The increase in the amount of summer vacation work done by undergraduates goes steadily on; and in the year under review the Faculty added to the number and variety of the summer courses which can be counted towards a degree (see p. 95).

In accordance with the custom of printing in these Reports once in five years a table showing the ages of students who entered the Freshman Class of Harvard College during the thirty years just elapsed, a table will be found in the Appendix (p. 347) of the ages of students who entered the Freshman Class in the years 1876 to 1905 inclusive. The table shows that the average age at admission has fallen slightly but steadily during the last five years, chiefly because the number of persons admitted to the Freshman Class when abnormally old has been diminishing. The figures of the last three years are, however, incomplete; for the table is constructed on the assumption that all persons who ever joined each class were admitted as Freshmen. Men who will enter to advanced standing are therefore still to be added to the figures of the last three years; and these men will probably raise the average age. It is a favorable sign that the number of persons who enter the Freshman Class between nineteen and twenty-three years of age is diminishing. For many years past it has been the opinion of the Faculty that the normal candidate for the A.B. or S.B. degree should enter the College or the Scientific School at eighteen. The perversions of athletic sports in schools and colleges have tended to hold boys back from the University until they have attained their full size and weight. A common impression in the minds of parents that a Freshman of nineteen or twenty has a better social chance at the University than a Freshman of seventeen or eighteen, and is, on the whole, safer both physically and morally, contributes to the unwise postponement of entrance on College life.

A table of the schools and colleges from which young men have entered Harvard College proper during the last ten years will be found in the Appendix, pages 359-370. In 1905, 159 schools and colleges, and a few private tutors, contributed the 528 persons who entered the classes of the College taken together. In 1900 the corresponding figures were 209 schools and colleges and 635 persons. Harvard College is fed by a great variety of institutions scattered widely over the country, in many of which the function of preparing boys for college is

only a subordinate one. Only thirteen schools (two public, seven endowed, and four private) sent more than six pupils each in 1905; and from these thirteen schools 209 persons entered the College, or two-fifths of the whole number that entered. The number of public schools which from time to time send some of their pupils to Harvard College is increasing.

In the ten years, 1876-1885, there were 82 such schools.

"	"	1881-1890,	"	96	"
"	"	1886-1895,	"	132	"
"	"	1891-1900,	"	163	"
"	"	1896-1905,	"	253	"

In 1895, 55 public schools (of which 36 were Massachusetts High or Latin schools) sent pupils to the College; in 1900, 84 public schools (of which 46 were Massachusetts High or Latin schools) sent pupils to the College, and of the other 38 public schools, nine were in New England, and twenty-nine outside of New England; in 1905, 71 public schools (of which 38 were Massachusetts High or Latin schools) sent pupils to the College, and of the other 33 public schools, five were in New England, and twenty-eight outside of New England. Ten years ago there were only thirteen such schools outside of New England. These figures show that the connection of Harvard College proper with Massachusetts High Schools and other New England High Schools is not as good today as it was five years ago.

The Dean of Harvard College reports (p. 105) the progressive decrease in the number of students registered in the Senior Class, and the corresponding decrease in the number of persons whose names appeared on the Commencement Programme of 1905 as recommended by the Faculty of Arts and Sciences for the degree of A.B. and also on the Catalogue list of registered Seniors. This progressive shrinkage in the Senior Class accounts for a large part of the eight deficits which have occurred during the last ten years. The shrinkage ought to have been counterbalanced by a gain in the size of the Freshman Class; but the obscure conditions under which the three years' degree has been developed have not permitted the College to realize this gain.

Persistent and partially successful efforts were made throughout the year by the Dean of Harvard College and his assistants to raise the standard of daily work among the less ambitious students under his care. The best evidence seems to show that in the lower half of each class four or five hours a day given to College engagements and to study are held to be a fair allowance. The Faculty and the Dean wish to raise this amount to at least seven hours a day (see p. 120).

The Faculty simplified and improved the rules for awarding the degree of Bachelor of Arts with distinction (p. 120), in the hope that a larger proportion of the students would aim at these honors than do so now. They also hoped that the new rules would invite students to do some systematic work during the summer vacation, and to make more careful adjustment of their courses; so that each individual's total course while in College should have greater unity. The rules are also intended to encourage students to indicate early in their College course their purpose to win a degree with distinction.

STATISTICS WITH REGARD TO 332 STUDENTS WHO HAVE
EARNED THE DEGREE OF A.B. IN 3 YEARS.¹

	No.	Per cent.
Took more than 6 courses in a single year	2	0.6
Took 6 courses a year for 3 years	21	6.8
Took 6 courses a year for 2 years, and less in the other year . .	104	31.3
Took 6 courses a year for 1 year, and less in the other years . .	114	34.3
Took less than 6 courses, every year	91	27.4
	332	
Took work at the rate of 6 courses a year for only one year or at a lower rate for all three years	205	61.7
Took 6 courses in the Freshman year	112	33.7
Credited with courses at entrance, or for summer work, or both .	219	66.0
Had courses to their credit at entrance	175	52.7
Obtained credit for summer work	67	20.1
Had courses to their credit at entrance and obtained credit for summer work	23	6.0
Had no entrance credits and no summer courses	113	34.0
Of these 113 men :	Corresponding figures for 113 4-year men. ²	
Had A or B in half or more of their courses	57	36
Had C or a higher mark in all their courses	54	22

¹ From three-year records completed in 1903, 1904, and 1905, respectively.

² Taken in alphabetical order from the class of 1905.

One of the questions concerning the three years' course for the degree of A.B. which has interested the Faculty has been this: What proportion of the three years' men have been obliged to elect six courses a year, and what effect does the election of six courses a year have on the scholarship of the men who make such a choice? The facts stated in the following table are partial answers to this question. So far as they go, they are encouraging to the young men who desire to obtain the A.B. in three years. To accomplish this result it is by no means necessary to take six courses a year for three, or even two, years. Thus, only 6 per cent. of the 332 students reported on in the table took six courses a year for three years, and only 31 per cent. took six courses a year for two years. Sixty-six per cent. of the whole number of students reported on had credits toward the degree, derived from anticipated courses, or from summer courses, or from both. When, however, the standing of the 113 men who had neither entrance credits nor summer courses is examined, in comparison with the corresponding figures for 113 four years' men, it appears that the standing of the three years' men, even under these disadvantageous conditions, is decidedly higher than the standing of the four years' men. This table, therefore, demonstrates, first, that by utilizing all the existing facilities young men of good parts may get the Harvard A.B. in three years without making any unreasonable or disadvantageous exertions, and secondly, that the presence in the courses of instruction of young men who propose to get the degree in three years is not likely to impair in any way the quality of the courses, since the three years' men are, as a rule, better scholars than the four years' men. It is apparent that any young man who has made good use of the instruction offered in a good secondary school, and is then willing to use for purposes of study one-half of the College vacation time, can procure the Harvard A.B. with distinction in three years, without any over-exertion, and will also have had a better training for efficiency in subsequent work at his professional school or in business than if he had taken four years to get the A.B. degree.

In addition to the scholarships with stipend which are awarded for merit and need, Harvard College has, since 1896,

awarded scholarships of the first class but without stipend, under the title of John Harvard Scholarships, and scholarships of the second class without stipend, under the title of Harvard College Scholarships, since 1898. The accompanying table shows that, of the scholarships of the first class awarded in ten years, the scholarships without stipend number 161, against 312 with stipend, and that of the scholarships of the second class awarded in eight years there have been 439 without stipend, against 480 with stipend. This result is highly satisfactory. The men who need pecuniary aid have a constant stimulus to exertion which the men who need no aid lack. Nevertheless a large proportion of the men who stand highest in the College rank lists are men whose families can afford to pay for their sons' education. The saying that "C is a gentleman's grade," is evidently an imperfect defence for the idler in Harvard College.

Year Awarded.	John Harvard.	All others, Group I.	Harvard College.	All others, Group II.	John Harvard and Harvard Coll.	All others, Groups I & II.	Total of all in Groups I & II.
1896-97 . . .	8	15	..	80	..	95	108
1897-98 . . .	17	19	..	71	..	90	107
1898-99 . . .	20	22	71	67	91	89	180
1899-00 . . .	11	37	27	45	38	82	120
1900-01 . . .	15	36	55	52	70	88	158
1901-02 . . .	13	28	40	55	53	83	126
1902-03 . . .	16	44	49	48	65	92	157
1903-04 . . .	27	44	61	59	88	103	191
1904-05 . . .	23	31	49	74	72	105	177
1905-06 . . .	11	36	87	80	98	116	214
Totals . . .	161	312	439	631	600	943	1543

The Dean of the Lawrence Scientific School (p. 125) gives an account of the method, used in that School for about ten years past, of aiding poor students by means of small loans, made with great care after personal interviews with the recipients, and with the expectation on the part of every recipient that the loan is to be repaid within a few years after graduation. The Dean believes that this method, when carefully administered in a personal way, has great advantages over scholarships.

In his experience, scholarship money is seldom repaid, while many small loans are. The repayment of a loan, with interest from the time of graduation, is wholesome for the borrower, and it adds to the resources of the School for aiding poor students.

The Scientific School is prompt and free in putting its students on probation for inadequate performance of duty. Hardly any other disciplinary measures are needed.

On recommendation of the University Council the Corporation voted to change the name of the Graduate School to "The Graduate School of Arts and Sciences," and this vote was duly consented to by the Board of Overseers. It was not expected that this vote would change the name of the Graduate School except in official usage. The motive of the change was the feeling of the Schools of Divinity, Law, and Medicine that they too were graduate schools, in the sense that they require a preliminary degree for admission. There is, however, a distinction between those three professional schools and the Graduate School of Arts and Sciences, in that the graduate who enters one of the professional schools commonly begins there a new set of studies, whereas in the Graduate School almost every student pursues there studies he has already pursued for several years. In other words, the first-year studies of the Divinity, Law, and Medical Schools are elementary as regards those topics, whereas in the Graduate School most of the instruction may fairly be called advanced as respects the several fields of knowledge therein cultivated.

The Graduate School of Arts and Sciences is in a flourishing state. The terms of admission to the School have been simplified; the resort of students to it from all parts of the country has increased; and the percentage of men who hold the degree of Bachelor of Arts, rather than the newer degrees, is high (over eighty per cent.) and constant. Two-thirds of the students in the year under review were born outside of New England.

The new opportunity to take degrees in the middle of the year was used by 89 persons in March, 1905. In the two

years since this practice began the degrees taken have been distributed as follows: —

	A.B.	S.B.	A.M.	S.M.	Ph.D.	D.M.D.	M.D.	LL.B.	S.T.B.	TOTAL.
1904 . .	19	3	2	0	1	1	12	1	1	40
1905 . .	45	11	8	1	1	2	17	4	0	89

Candidates for the degrees of A.B., A.M., and Ph.D. can, under existing arrangements, easily bring their studies to a natural close at the middle of the year; so that the number of persons taking a degree in March may be expected gradually to increase. There need be no fear whatever that the regular Commencement Day will be in any way impaired by this mid-year process. There are sound reasons for the European practice of conferring degrees at more than one time during the year; and several American universities have recently adopted the practice to advantage.

At the last meeting of the Corporation in the year under review a scheme was adopted for the exchange of students' privileges between Harvard University and the New England Conservatory of Music, whereby students of high standing in certain musical courses offered by the Faculty of Arts and Sciences should be given access to orchestral exercises and other privileges at the Conservatory, and on the other hand, qualified students in the latter institution should be admitted to certain courses offered by the Faculty of Arts and Sciences, and to library privileges. This scheme was tentatively adopted on the part of the University, with the understanding that the question of giving credit toward a degree in Harvard University for work done by students of the University at the Conservatory of Music should be referred for settlement to the Faculty of Arts and Sciences. Selected students from the University had for two years been receiving valuable privileges at the Conservatory; so that the Corporation had already obtained some knowledge of the practical advantages which the Conservatory could offer to Harvard advanced students of musical theory.

In November, 1903, the Corporation sent to the Board of Overseers a vote establishing the David A. Wells Professorship of Political Economy; but before acting on this vote of the

Corporation the Overseers desired to secure from the Supreme Court of Massachusetts a decision that the proposed use of the surplus income of the trust fund given by the will of David A. Wells of Norwich, Connecticut, to the Corporation of Harvard College was a proper and lawful use. In January, 1905, a decree was handed down by the Court whereby "It is ordered, adjudged, and decreed that the Corporation of Harvard College pay out of the income annually \$500 for a prize as directed by the said will, and under the terms thereof, and pay such further sums as may be necessary for the publication and distribution of the essay for which the prize may be awarded, and that subject to the aforesaid payments the said Corporation apply the income toward paying a suitable salary to a professor to be known as the David A. Wells Professor of Political Economy, whose duty it shall be to give instruction on those topics which the said David A. Wells named in his will as subjects for said essay." Thereupon the Corporation voted to return to the Board of Overseers the vote of November 23, 1903, establishing the David A. Wells Professorship, and the Overseers duly consented thereunto. Professor Thomas Nixon Carver was subsequently elected to this professorship. An important and permanent subject of university instruction is thus provided with a substantial endowment.

The forty-three students enrolled in the Divinity School in the year under review represented twenty-five colleges and ten theological seminaries. In the Summer School of Theology, which numbered sixty-one persons, eleven different denominations were represented. The teachers in the Summer School came from five different institutions, but a majority of the lectures were given by members of the Harvard Faculty. For instruction offered by the Divinity School there were three hundred and fourteen enrolments by students not belonging to the School but registered in other departments.

The Frothingham Professorship Fund in the Divinity School having reached by accumulation \$53,203.14, it seemed to the Corporation desirable that its income should begin to be used towards the payment of the salary of a professor. With the consent of the Board of Overseers, the Frothingham Professor-

ship of the History of Religion was established, and Professor George Foot Moore was elected to the professorship. The subject which Professor Moore is to deal with conforms to the desires of the founder; and the Corporation provided for a stated annual increase in the professorship fund by voting that "until further order of this Board \$500 of the income of the Frothingham Professorship Fund be credited annually to the principal of the fund." Upon this foundation Professor Moore offered in 1904-05 courses in the History of Pre-Christian Hebrew Literature, and in the History of Religions in Outline. He also gave a summer course on Judaism and The Beginnings of Christianity. During the present year he gives a course on the History of Jewish Literature from the Earliest Times to 200 A.D., and a half-course on Judaism from 198 B.C. to modern times; and he repeats his course on the History of Religions in Outline.

The extraordinary prosperity of the Law School continued during the year 1904-05, the number of students being larger than ever and the number of colleges represented in the School by their graduates being also larger than ever (p. 176). The library continues to increase rapidly in number of volumes and in value. The printing of the first volume of the catalogue of the library has begun.

Further studies of the plans of the new building have resulted in considerable improvements, the final plans, which have now been approved by the consulting committee of architects, being much more satisfactory than any of the preceding plans. It is now hoped that construction will begin next spring.

The complete success of the policy of this School in demanding a preliminary degree for admission, and in maintaining a thorough three years' course of study for the degree, should be very encouraging to other American universities which desire to furnish the legal profession with well-trained members whose ideals are high and capacities large.

The deficit of the Medical School in 1904-05 was again large (\$24,853.92), and this deficit, like the former deficit, had to

be charged to the Medical School balance, reducing that laboriously accumulated balance to the small sum of \$5,560.57 on July 31, 1905. The number of students and the receipts from students continued to decline, while the expenditures could not be correspondingly reduced. The School is sure to have another heavy deficit for the current year, in spite of some serious reductions of expenditure; and this new deficit the remaining disposable balance of the School will not be sufficient to meet.

During the year under review the Faculty adopted for the fourth year a free elective system with a considerable range of options. This system has gone into force during the current year, causing some increase of cost because of the necessary provision of additional instruction. The choices made by members of the fourth class during the current year show that the majority of the students under free election will choose those subjects which are the fittest elements in a prescribed course. This result is very similar to that which appears in Harvard College, where, however, the fit elements of conceivable prescribed courses are much more numerous.

An advantageous change was made when the graduate and summer courses heretofore in charge of two different committees were placed by the Faculty in the hands of one committee. The number of students attending each of these two sets of courses has sensibly increased of late; but is by no means commensurate with the value of the instruction and clinical opportunities offered. The summer work attracts some students from a distance.

The activity of the Medical School in medical research was fully maintained in all of the laboratories by both teachers and students, as the long list of publications in the report of the Dean of the Medical School (p. 183) abundantly proves.

The new buildings of the School are approaching completion; so that the Faculty expects the current year to be the last to be spent in the building on Boylston Street. The President and Fellows will not know how much of the great gifts made to the Medical School Undertaking as a whole in 1901-03 will remain as an endowment for maintenance of the School, until the Boylston Street estate has been sold, and the

contracts with the several neighboring hospitals concerning the land bought in 1900 by the President and Fellows for the Medical School and the hospitals have been carried into effect. The Undertaking was conceived on a large scale, and with more regard to future needs and opportunities than is usual in university enterprises.

The following table is intended to exhibit the various measures in which the universities named recruit their Medical Schools and Law Schools from persons who have already received a preliminary degree in arts or science.¹ Harvard is the only one of these institutions which requires a preliminary degree for admission to its professional schools; but in several other institutions, notably at Chicago and Columbia, a considerable proportion of holders of a preliminary degree is to be found in the Schools of Law and Medicine. State universities are as a rule deficient in this respect. An important aspect of this matter is the fact that the strongest support any university can give to the preliminary degrees in arts and science—its own, or those of other institutions—is the requirement of such a degree for admission to its professional schools. There would be no question about the future maintenance of that peculiarly American educational institution

TABLE X.

1904-05. Universities.	Medical Schools.		Law Schools.	
	No. of male students.	Holders of a preliminary degree.	No. of male students.	Holders of a preliminary degree.
		Number. Per cent.		Number. Per cent.
Chicago	238	106 44.5	157	94 59.9
Columbia	562	250 44.5	343	282 82.2
Cornell	355	54 15.2	224	23 10.3
Harvard	307	267 87.0	758	755 99.6
Illinois	601	92 15.3	129	9 7.0
Michigan	342	79 23.1	867	109 12.6
Northwestern	591	114 19.3	225	70 31.1
Pennsylvania	546	171 31.3	301	105 34.9
Yale	139	19 13.7	234	82 35.

¹ The figures are obtained from the catalogues of the several universities by counting names to which a Bachelor's degree, or its equivalent, is affixed.

called a college, if the universities of the country would require an A.B. or an S.B. for admission to all their professional schools.

As has been pointed out for several years in these Reports, the University Library greatly needs more shelf-room, either within or without the Yard, more working-rooms, and an additional endowment. It ought to be made independent of the general budget of the University, by having an income of its own adequate to pay its salaries, wages, and general expenses. The Library is a permanent and indispensable part of the University's equipment; and its administration should be stable, and unembarrassed by the rise or fall of the total of tuition fees, or the increase of expenditures in other departments of the University. Opinions differ as to whether a university library must try to keep promptly accessible hundreds of thousands of books which have no intrinsic value, or very little present value for the passing generation of students; but there is no difference of opinion concerning the constant need in a university library of learned librarians, skilful cataloguers, and numerous supervisors and attendants, all of whom should have proper space to work in and every mechanical facility which ingenuity can devise. The stream of students unskilled in the use of books which flows through an active and expanding university needs a great deal of help at the library; and no other university expenditure can be more profitable than expenditure for such help.

That portion of the report of the Librarian which relates to the shelf department (p. 227) tends to prove that if 100,000 "dead" books now in Gore Hall, or in the basements of Perkins Hall and Robinson Hall, should be stored in a cheap fireproof building on cheap land within half a mile of the Yard, a single attendant at the new building, supplied with a telephone, could easily meet all demands for the "dead" books under his care by making two trips a day between the new storehouse and Gore Hall. This deliverance would make Gore Hall, with some enlargement on the north side for working rooms, conveniently serviceable for a good many years to come, and would greatly facilitate the delivery and use there of

the remaining live books. Moreover, it would establish an economical and feasible policy for the future.

The Librarian describes in a very interesting way (p. 214) the circumstances under which the valuable library of Professor Charles Eliot Norton was acquired, and the Norton Memorial Fund for the purchase of books was established. Better memorials of a highly serviceable and distinguished university career cannot be imagined.

The chemical laboratories in Boylston Hall have been for years over-crowded, and in particular the accommodations there for advanced students and for research have been insufficient. As a temporary remedy for these evils, the Corporation assigned to the Chemical Department the rooms in Dane Hall, formerly occupied by the Harvard Coöperative Society. Two excellent laboratories, one in the basement and the other on the first floor, were fitted up in Dane Hall during the past summer; and the spaces gained in Boylston Hall by transferring large elementary classes to the new laboratories were re-arranged for the better accommodation of the teachers and students who will remain in that building. These improvements were effected at a cost of about \$5,000. If need be, the upper story of Dane Hall, recently vacated by the Department of Philosophy on the removal of its psychological laboratory to Emerson Hall, can be used for a further enlargement of the chemical laboratories; but for the present the new accommodations provided last summer will suffice. The cost of carrying on the Chemical Department is necessarily increased by these changes; but the work of the Director of the Laboratory, Professor Sanger, and indeed of all the teachers in the Chemical Department, has been much facilitated.

The Mineralogical Museum, which is under the charge of Professor Wolff, has had in operation for nearly a year an admirable lighting of the collection by means of electric lamps. The cost of the lights—about \$250 a year—is borne by a generous friend of the Museum. The beauty of the result suggests strongly a similar lighting for many other of the exhibition rooms in the University Museum.

The Curator of the Museum describes the extraordinary beauty and size of the collection of American tourmalines now on exhibition in the Museum, saying of it that it is probably the largest and most valuable collection of tourmalines ever brought together for exhibition.

The Mineralogical Cabinet is the oldest of all the natural history collections belonging to the University and is in many other respects remarkable, but its endowment is utterly inadequate.

The Fogg Art Museum has in late years received a considerable number of valuable original works of art — paintings, etchings, bronzes, sculptures, and vases — and it seems likely that it will continue to be enriched in this way. The original object of the Corporation was to collect in this Museum chiefly photographs, prints, casts and other reproductions; but reproductions cannot teach the effects of color, lustre, and translucence, so that it was obviously desirable that the collection should contain a few first-rate pictures, vases, sculptures, and textile fabrics. These objects need not be numerous, but they ought to be as good as possible, and there should be enough of them to attract the attention and excite the interest of the successive classes of young men who pour through the University. This stream of youth is to supply patrons of art and trustees of museums for many American communities; so that there should exist in Cambridge adequate means of interesting fit young men in one or other of the fine arts.

It is of course impossible that the Fogg Art Museum should ever be large, or should ever compete in any respect with the Boston Museum of Fine Arts, or with such an institution as the Metropolitan Museum of Art in New York. Its objects are closely limited to purposes of University instruction; and it has no funds with which either to procure or to maintain large collections.

At the close of the year an indefinite leave of absence was given to Mr. Lythgoe, Instructor in Egyptology at the University, and Curator of the Egyptian Collections at the Boston Museum of Fine Arts, in order that he might take charge, in connection with Dr. George A. Reisner, of promising excavations in Egypt, the artistic product of which should go to the

Boston Museum, while the publication of its results should be made in the name of the University. This coöperation between the two institutions is to be of indeterminate length, but the first arrangements were made for one year.

The Germanic Museum continues to receive interesting gifts illustrating the history of Germanic culture. Although it was only opened to the public on two week days and on Sunday afternoons, it was visited during the year by 23,000 persons. The attention of the Overseers is invited to the Curator's remarks (p. 317) on the demonstrations of German good will toward America in connection with this Museum, and the desirability of reciprocating these demonstrations by endowing the Museum with American money.

An interesting event of the year 1904-05 was the consummation of the plan, then two years old, for a regular annual interchange of professors between German universities and Harvard University. This plan was, in general, an outgrowth of the project for developing a Germanic Museum at Harvard. An association organized on this side of the ocean had already, in 1901, raised a modest sum of money, and made collections which served as a beginning, when in 1901 the German Emperor announced his great gift to the Germanic Museum at Harvard. Prince Henry of Prussia brought the illustrated catalogue of the Emperor's gift to Cambridge in March, 1902, and made a formal presentation to the University of this unique collection on the 6th of the month. Shortly after, by invitation of Professor Kuno Francke of Harvard University, then on leave of absence in Europe, there was held in the Königliche Kunstgewerbe Museum in Berlin a meeting to consider ways and means for bringing about some kind of popular gift to the Harvard Germanic Museum as an appropriate supplement to the gift of the Emperor. There were present at this meeting, among others, the director-general of the Prussian Museums, the director of the Kunstgewerbe-Museum, the Rector of Berlin University, the director of the Deutsche Bank, and several of the most eminent professors of Berlin University. Dr. Francke, being invited to describe the aims and method of the Harvard Germanic Museum, said that the Museum was

conceived of as an object-lesson in German culture, as an historical conspectus of the national development, and as a connecting link between German and American intellectual life. He emphasized the hope that in course of time endowments would be attached to the Museum which would make it possible for the University to invite German scholars to give courses of lectures at the Museum on German art, literature, and philosophy. In the midst of the discussion which followed, Dr. Althoff, Ministerial-director, joined the meeting, and expressed himself strongly in favor of the whole undertaking, adding that the proposed popular gift to the Museum would be insignificant compared with the intellectual bonds to be established between the two countries by the proposed lectureships. This meeting resulted in the formation of the committee which subsequently gave to the Museum an admirable collection of galvano-plastic reproductions of the best specimens of the German silver-smith's art from the Middle Ages to the Eighteenth Century. Later in the spring Professor Francke had several conferences with Dr. Althoff which contributed to form in Dr. Althoff's mind the plan for an exchange of professors which two years later was carried into execution.

In 1903 a considerable number of German university professors were invited, through Professor Münsterberg of Harvard, acting for a committee of the St. Louis Fair, to attend a congress of scholars to be held at St. Louis in September, 1904, as part of the Louisiana Purchase Exposition. Many of these invitations were accepted, and many of the German visitors embraced the opportunity to visit some American universities as they returned from St. Louis to the Atlantic seaboard. Several of the most distinguished scholars visited Harvard University. On their return home they seconded strongly Dr. Althoff's plans and hopes. In November, 1904, the following letter was received from Dr. Althoff: —

[*Translation.*]

Address :

Berlin W. 64

Unter den Linden 4,¹.

NOVEMBER 12TH, 1904.

TO THE PRESIDENT OF HARVARD UNIVERSITY: —

SIR, — From communications that have reached me from various quarters, and in particular from Professor Dr. Harnack, I may be allowed to

infer that it will be in accordance with your intentions if I take the liberty of submitting to you herewith the draft of an agreement between the University of Berlin and Harvard University concerning the mutual exchange of professors. I respectfully request you to examine the draft and kindly to inform me of your attitude with regard to it. If, as I hope, an agreement of this kind should be reached, I should deem it advisable to begin carrying it into effect even as early as next year, that is, for the summer semester or the winter semester.

I have the honor to remain, Sir,

Your obedient servant,

(Signed) ALTHOFF.

The agreement referred to in this letter (see Appendix, p. 346) provided for an annual exchange of professors for about one-half of the academic year, the regular salary of each professor to be continued, and each professor to be allowed \$1,200 in addition to his salary, to cover travelling and living expenses.

Harvard University immediately (December 2, 1904) accepted the proposed exchange for the academic year 1905-06, and on January 12th opened negotiations with the Rector of the University of Berlin for the exchange of one Harvard professor for one German professor in the year now current. Dr. Althoff selected the first half of the year as the period of residence for the German professor at Cambridge and the Harvard professor at Berlin. The names of four Harvard professors having been presented (January 12, 1905) to the Rector of Berlin University as suitable for the first service at Berlin, choice was made of Professor Francis Greenwood Peabody, who proposed to lecture on the Ethics of the Social Questions. On the 10th of March, 1905, Dr. Althoff proposed the names of five German Professors among whom Harvard University should make choice of the first visiting professor. The University selected Dr. Wilhelm Ostwald, the eminent physical chemist. Dr. Ostwald's subjects at Cambridge, as defined after some correspondence, were to be the Philosophy of Natural Science (given in English), the Fundamental Conceptions of Chemistry (given in English), and Catalysis (given in German). Professor Peabody's courses in Berlin were to be a course given twice a week in German on the Modern

World and the Christian Character, and a course given four times a week in English on Social Ethics in the United States. At the opening of the current academic year both visiting professors began the work thus planned; and at both universities their work has proved interesting, stimulating, and successful.

The present condition of the Observatory is highly interesting. Its income is all expended productively, but on routine work which it has devised or accepted and is bound to execute. The maintenance of its invaluable collection of photographs, which contains the only existing history of the stellar universe for the past twenty years, requires much time and money. It sees attractive opportunities for additional investigations; and a moderate increase in income would permit its work to be very profitably extended. The grant of \$2500 by the Carnegie Institution in 1903 for a single year resulted in the accumulation of a great amount of material. Such a moderate gift as \$50,000, to be expended in the course of the next ten years, would be extraordinarily productive; because experienced direction, skilful observers and computers, and a varied instrumental equipment are at hand. The Director points out that the salaries of the assistants in the Observatory are very low, and that there is no provision for their increase, the new Teachers' Endowment Fund not being available at the Observatory.

All the laboratories, museums, and scientific establishments of the University need further endowment, in order that their present resources may be better utilized and may be added to systematically and continuously. This need has already been referred to in connection with the Observatory and the Mineral Cabinet, but it is just as obvious and just as keen in the Arnold Arboretum, the Botanic Garden and Museum, the Gray Herbarium, the Peabody Museum, the Semitic Museum, the Fogg Art Museum, the Chemical Laboratory, and the Jefferson Physical Laboratory; and the laboratories for mining and metallurgy and for zoölogy have similar needs. All these establishments have large possessions in buildings, material,

and equipment, but they all need income for running expenses and for gradual enlargements. Such establishments need unfailing and predetermined incomes. Arrests and checks, though temporary, are very injurious; and as has already been explained concerning the Observatory, moderate additions to the income of such establishments will always be productive out of all proportion to the amount of income added. In all the scientific establishments of the University there are opportunities for new and better work which are overwhelming in number and variety; but they have to wait for the means to utilize them.

The Corporation having come into possession of two traveling fellowships in Architecture, each of the annual value of \$1,000, one paid from the income of the Nelson Robinson Jr. Fund, the other from the Julia Amory Appleton Fund, adopted in January, 1905, regulations for the award of these two valuable fellowships. The holder of the Nelson Robinson Jr. Fellowship must not be more than twenty-six years old at the time of his appointment; the holder of the other must not be more than thirty years old. These fellowships will ordinarily be offered for competition in alternate years, and the holders will on application be appointed for a second year when they have done creditable work during the first year. They are open for competition to Bachelors of Science in Architecture of Harvard University who have taken the degree with distinction, or who have completed with distinction a year of graduate study in architecture at the University. The selection will be made by a competitive examination in the History of Architecture and in Design. (For the regulations in full see Appendix, p. 348.)

At a meeting of the President and Fellows on March 13, 1905, the following communication was read:—

DR. H. P. WALCOTT, Acting President:—

DEAR SIR, — Harvard University has subscribed by friends the sum of \$100,000 to the endowment of the American Academy in Rome, and is entered as one of ten subscribers of \$100,000 each. I will see that the money is forthcoming at the right time, and am

Very truly yours,

HENRY L. HIGGINSON.

It was thereupon voted "that the thanks of the President and Fellows be sent through Mr. Higginson to the friends of the University whose generous contribution has enabled Harvard University to become a subscriber to the endowment of the American Academy at Rome." This liberal and unusual gift in the name of the University establishes a permanent connection with the new American Academy at Rome, a connection which will be valuable, it is hoped, to a long series of American students of the fine arts, and especially of architecture. The University has already coöperated to the best of its ability for many years with the American School at Rome for the study of the classics and of classical archaeology.

In April, 1905, the survivors of the Class of 1846 transferred to the Corporation their class fund, amounting to \$10,571.07, to be held as a separate fund in the general investments, and its income to be payable on demand to the secretary of the class or to any member of the class whenever there shall be no secretary. Upon the death of the last surviving member, the amount of the fund is then to be transferred to the Francis James Child Memorial Fund now held by the College. Professor Child was a member of this class. (See Appendix, p. 349.)

In the following month the Corporation received an anonymous gift of peculiar interest, being an ample endowment of the courses on social ethics originated and directed by Professor Francis Greenwood Peabody. The principal of the fund is \$100,000; the income is to be used for the benefit of the courses on the Ethics of the Social Questions in addition to those expenditures on behalf of these courses which the University has heretofore made. It may be applied toward the provision and care of books, photographs, drawings, and models; toward a special library and social museum; toward the payment of additional instructors, assistants, and curators; to the encouragement through prizes, fellowships, and other rewards, of special researches or publications; or for lectures, or new forms of instruction. The same benefactor contributed largely to the erection of Emerson Hall, in which building Professor Peabody's courses and collections are to be accommodated. He has therefore provided for this department,

first, spacious quarters, and then an annual income which assures it adequate maintenance and steady improvement. No more effective promotion of a valued kind of instruction can be imagined; and since the subject is one of permanent interest, the benefaction will do perpetual good.

Another remarkable gift was received at the same time. Mr. Jacob H. Schiff, of New York, offered to defray the expense of excavations in Palestine under the auspices of the Semitic Museum of Harvard University during a term of five years at a total outlay of \$50,000, and offered in addition the sum of \$5000 for preliminary expenses. The Corporation gladly accepted this generous offer, and gave the direction of the expedition to Dr. George A. Reisner, who, beside being an accomplished scholar in Semitic languages, has had, in Egypt, large experience in exploration. The success of the expedition depending wholly on Dr. Reisner's procuring from the Turkish Government a permit to make excavations in Judaea, or Samaria, or some other part of the Palestinian field, Dr. Reisner has already visited Constantinople, and made application for the needed permit with the valuable aid of the American minister to the Turkish Government. In asking for this permit the University has agreed that every object of interest brought to light through Dr. Reisner's explorations shall be delivered to the Turkish Government. It does not ask permission to carry any such objects out of Turkey. The scientific objects which Mr. Schiff and the University have in view can be accomplished through discovery and description, without transferring to foreign parts any of the objects; unless, indeed, by the good will of the Turkish Government some duplicate objects should be given to the Semitic Museum at Harvard.

Another gift of an unusual sort was received by the Corporation in June, 1905. It was a gift of \$50,000 in memory of Walter Channing Cabot from his widow and their children. This gift is to be held as a permanent fund which will support a Walter Channing Cabot Fellowship, the fellowship and the income of the fund to be given to any professor or instructor in the general field of literature, history or art, either for life or for a term of years, not in substitution for any part of his

regular salary, but in addition thereto. It is the desire of the givers to provide "an additional remuneration to some distinguished man in recognition of his eminence." The probability is that this fellowship and its income will be awarded to some full professor of the University whose salary will thereby be increased by the income of \$50,000. The fellowship will therefore be a prize held for a long period, or for life, by some peculiarly valued teacher or producer.

The American game of foot-ball as now played is wholly unfit for colleges and schools.

(1) It causes an unreasonable number of serious injuries and deaths; not one in five of the men that play foot-ball several seasons escape without injury properly called serious, and of the twenty to thirty picked players who play hard throughout a season hardly a man escapes serious injury. The public has been kept ignorant concerning the number and gravity of these injuries, the prevailing practice among coaches and players having been to conceal or make light of the injuries sustained. Many of the serious injuries are of such a nature — sprains, strains, wrenches, dislocations, ruptures of ligaments and muscles, and shocks to the brain — that in all probability they can never be perfectly repaired.

(2) Violations of the rules of the game by coaches, trainers, and players are highly profitable, and are constantly perpetrated by all parties.

(3) In any hard-fought game many of the actions of the players are invisible to the spectators, and even to the referee and umpire; hence much profitable foul play escapes notice.

(4) The game offers many opportunities for several players to combine in violently attacking one player.

(5) There is no such thing as generosity between combatants, any more than there is in war.

(6) Acts of brutality are constantly committed, partly as results of the passions naturally roused in fighting, but often on well-grounded calculations of profit towards victory.

(7) As a spectacle, for persons who know what the game really is, foot-ball is more brutalizing than prize-fighting, cock-fighting, or bull-fighting. Regarded as a combat between

highly trained men, the prize ring has great advantages over the foot-ball field; for the rules of the prize ring are more humane than those of foot-ball, and they can be, and often are, strictly enforced. The fight in a prize ring between two men facing each other is perfectly visible, so that there are no secret abominations as in foot-ball. Yet prize-fighting is illegal.

(8) The game sets up a wrong kind of hero — the man who uses his strength brutally, with a reckless disregard both of the injuries he may suffer and of the injuries he may inflict on others. That is not the best kind of courage or the best kind of hero. The courage which educated people ought to admire is not that reckless, unmotivated courage, but the courage that risks life or limb to help or save others, or that risks popular condemnation in speaking the truth, or in espousing the cause of the weak or the maligned.

All these evils of foot-ball have now descended from the colleges into the secondary schools, where they are working great moral mischief. It is clearly the duty of the colleges, which have permitted these monstrous evils to grow up and to become intense, to purge themselves of such immoralities, and to do what they can to help the secondary schools to purge themselves also. Intercollegiate and interscholastic foot-ball ought to be prohibited until a reasonable game has been formulated and thoroughly exemplified in the practice of individual institutions. It is childish to suppose that the athletic authorities which have permitted foot-ball to become a brutal, cheating, demoralizing game can be trusted to reform it.

The Medical Visitor reports that ten students in the Cambridge departments of the University died during the year — eight of disease, and two by accident. Of these ten persons, four died at the Infirmary, and six at their homes or otherwise at a distance from Cambridge.

The use of the Stillman Infirmary was much increased during the year, because of a large increase in the number of ward patients. This increase is a result of the new system of charging each student in the Cambridge departments four dollars a year as an Infirmary fee, this fee entitling him to a fortnight's treatment at the Infirmary in any one academic year. The

product of this fee, added to the income of the funds belonging to the Infirmary, is sufficient to maintain the Infirmary in a thoroughly satisfactory manner.

On the petition of the trustees and officers of the Harvard Union, that the membership dues be chargeable on term-bills, the Corporation agreed that this charge should hereafter be entered on the term-bills, although they had twice before refused this request. The effect justified the anticipations of the trustees and managers of the Union; for the active membership has increased by more than one-third during the current year. The comparative figures of 1904 and 1905 are as follows (in November) :—

	1904.	1905.
Active	1345	2027
Associate	557	636
Non-Resident	552	573
Student Life	55	64
Graduate Life	964	1023
	<hr/> 8473	<hr/> 4323

Graduates may best help the Union by becoming life members; for all the life-membership fees are funded. They therefore constitute a welcome endowment for the Union. Since the value of the Union depends on its large size and democratic quality, it is a fair object for moderate endowment.

At the end of the year 1874–75, the first year that the Harvard Dining Association used Memorial Hall, the debt of the Association to the University amounted to \$47,219.75, all of which had been spent for construction and equipment. The Association has always paid interest on this debt and an annual sum to reduce it. Accordingly, on the 1st of August, 1901, the debt had been reduced to \$12,522.66. In that summer the Association made large improvements in the Hall and basement—among them a solid fireproof floor for the Hall itself, in place of the original hollow wooden floor. In consequence the debt stood on August 1st, 1902, at \$46,224.69. In the year now under review further improvements have been made at large cost in the Hall, the basement, and the entire appa-

tus for heating, ventilating, refrigerating, lighting, washing, and cooking. A one-story addition, in harmony with the main building, was built along the whole north side of the Dining Hall, with its floor on a level with the floor of the Hall. A new serving-room was thus secured, and the seating capacity of the Hall could then be enlarged by removing all the fixtures for serving purposes which had encumbered the Hall on its south side. The basement of this addition was available for enlarging the kitchens, laundry, storerooms, and so forth. Thereupon the whole basement was re-arranged, reconstructed, and refitted, with the result that the work of the Association can now be done more satisfactorily, and in proportion to its amount more economically than before. The Dining Hall itself can seat 108 more persons than before, and is better lighted and ventilated, and much quieter. The debt of the

TABLE I.

AVERAGE PER MAN PER WEEK.

	1903-04.		1904-05.		1905-06.
	1st hf.	2d hf.	1st hf.	2d hf.	Sept. 27 to Jan. 1.
Total General Board (actual cost) . .	\$2.63	\$2.75	\$2.61	\$2.81	\$2.81
Consisting of :					
1. Items varying (a) nearly directly as Betterments to Plant, and (b) nearly inversely as Number of Members.					
(a) Sinking Fund (reduction of debt)	.029	.038	.048	.048	.164
(b) Interest on Debt @ 4.5% . . . .	.039	.042	.054	.059	.168
2. Items varying nearly inversely as Number of Members alone.					
(a) Interest on Advances for Running Expenses . . . . .	.037	.094	.045	.048	.039
(b) Service . . . . .	.88	.92	1.06	1.06	1.11
(c) Coal . . . . .	.12	.11	.12	.12	.14
(d) City Water . . . . .	.02	.02	.01	.006	.019
(e) Repairs . . . . .	.06	.08	.10	.09	.03
(f) All Other Expenses, except Provisions . . . . .	.22	.23	.27	.34	.18
(g) Total General Board, except Provisions	\$1.41	\$1.54	\$1.70	\$1.78	\$1.85
3. Provisions charged to general board (Being Total Provisions less those paid for by Coupons and Slips) . .	1.22	1.21	.91	1.03	.96
	\$2.63	\$2.75	\$2.61	\$2.81	\$2.81

TABLE II.
AVERAGE PER MAN PER WEEK.

	1903-04.		1904-05.		1905-06.
	1st hf.	2d hf.	1st hf.	2d hf.	Sept. 27 to Jan. 1.
Coupons received for					
(a) Meat, Fish, and Eggs	\$.98	. .	\$.90	\$.74	\$.78
(b) Desserts . . . . .	.09	. .	.45	.60	.57
(c) Total Coupons received . . .	\$1.07	\$1.36	\$1.35	\$1.34	\$1.35
(d) Slips received for "Extras" . .	.48	.61	.53	.65	.43
(e) Total Expenditure controlled by each member himself	\$1.55	\$1.97	\$1.88	\$1.99	\$1.78
(f) Provisions charged to General Board (Table I, 3)	1.22	1.21	.91	1.03	.96
(g) Total Provisions Used, including those for Employés	\$2.77	\$3.18	\$2.79	\$3.02	\$2.74
(h) Balance of General Board (Table I, 2 (g))	1.41	1.54	1.70	1.78	1.85
(k) Total Average Cost of Board to each member	\$4.18	\$4.72	\$4.49	\$4.80	\$4.59

TABLE III.

	1903-04.		1904-05.		1905-06.
	1st hf.	2d hf.	1st hf.	2d hf.	Sept. 27 to Jan. 1.
(1) Seating Capacity of Memorial Hall	772	772	772	772	880
(2) Limit of Membership	1300	1300	1158*	1158*	1320*
(3) Average Membership	1299	1243	1139	1105	1243
(4) Total Comparable Expenses — being general board, less provisions, sinking fund and interest on debt (Table I, 2 (g) less 1 (a), (b)) . .	\$1.34	\$1.46	\$1.60	\$1.67	\$1.52
(5) What above item (4) would have been, if membership had been constant at 1200	1.45	1.51	1.52	1.54	1.57

Hall has increased to \$181,096.96 (1 January, 1906); but the fixed charges being borne by a larger number of members, and some of the running expenses being reduced by the efficiency of the new apparatus, it is expected that the price of board for frugal members will not be appreciably affected.

* Fifty per cent. more than the number of chairs.

The foregoing figures show in some detail the distribution of the cost per week to each member. It will be remembered that for two years past the Hall has been conducted on the following principles — meat, fish, and eggs are paid for *à la carte* at cost; for all other food and for the running expenses a general charge per week is made which is the same for all members; and tips to waiters are prohibited. This method is the most successful which has ever been applied to the feeding of large numbers of students in Cambridge as respects efficiency, economy, and adaptability to a great variety of tastes and purses. As a method it is apparently superior to that of Randall Hall, which is essentially an *à la carte* restaurant, with “combination” meals at specified prices which are all low, and student waiters.

The work of the Appointments Secretary is described in a clear and interesting way in his report (p. 353). As his function becomes better known, the opportunities offered through him to graduates and undergraduates of Harvard University increase in number and variety, and the annual value of the positions secured by them through his office rises. The question will soon arise whether this office ought not to be made self-supporting by charging a fee for each permanent position obtained. The office was copied from Oxford University; but there a fee proportionate to the value of the place secured has always been charged.

The serviceableness of the office will depend in the long run on the frankness and discrimination with which candidates for positions are described to the appointing or employing persons. The office has built up a good reputation for frankness and discrimination, and this good reputation and the energy of the Secretary are doubtless the causes of the increase in its business. It is desirable that graduates of the college, particularly those who settle in places at a distance from Cambridge, should take note of the function of this office, and avail themselves on occasion of its services. This is one of the ways in which the older graduates of the University can help the younger. Graduates who are likely to want positions, or better positions, can help the office by keeping on file there fresh and full de-

scriptions of their own capacities and desires. The office ought to be serviceable, not only to men who are seeking first positions, but also to men who desire promotions.

The method of procuring professional advice concerning new buildings and new sites for buildings, which was adopted by the President and Fellows at the instance of the Board of Overseers in the spring of 1904, was used a second time when new plans for a Law School building on a new site were submitted in 1905 by Messrs. Shepley, Rutan & Coolidge to the same committee of architects which reported against the site and the design for this building proposed by the same firm in 1904. The committee consisted of Messrs. Robert S. Peabody, Francis W. Chandler, and George R. Shaw. This time the report of the committee as to both site and design was favorable.

The net income of the general investments was divided in 1904-05 among the funds to which they belong at the rate of 4.92 per cent., after allowing special rates to certain temporary funds and balances. This rate of income is higher by fifteen hundredths of one per cent. than the rate for 1903-04, and must be considered a very satisfactory rate on so large a capital — about fifteen million dollars on the average of the year.

On pages 10-18 of the Treasurer's Statement will be found convenient summaries of the receipts and expenditures, and the resulting surpluses and deficits, in the several departments of the University. These new summaries show clearly what departments had deficits and what departments had surpluses in 1904-05, and how these deficits or surpluses compare with those of the preceding year. Thus, in the combined account of the University, College, Lawrence Scientific School, Graduate School of Arts and Sciences, and Library there was in 1904-05 a deficit of \$25,137.11; whereas in the preceding year the deficit in this same account was \$30,743.06. The deficit recurred in this account, because the number of students in these departments of the University diminished somewhat, and the dormitories belonging to them were not as well leased in 1904-05 as they were the year before. Several measures were

put in force by the Corporation to increase receipts on the one hand and diminish expenditures on the other ; but on account of the unfavorable circumstances just mentioned, these measures did not prevent the recurrence of a deficit.

The gifts of the year for capital account were \$1,455,131.97, and for immediate use were \$875,295.59.

In addition to the new summaries already mentioned, there will be found in the Treasurer's Statement new tables relating to the museums and scientific establishments, and to Appleton Chapel, Phillips Brooks House, Hemenway Gymnasium, and Stillman Infirmary. There are ten such new tables, all of which add to the completeness and intelligibility of the Treasurer's Statement. A useful index has also been added to the Statement. These improvements are all due to the ingenuity, knowledge, and zeal of Mr. Allen Danforth, Comptroller. The fulness and clearness of the Treasurer's Statement have been noteworthy for many years, and are believed to be a just source of public confidence in the financial administration of the University.

It is an imperfection of the ample compilation which now forms the President's Annual Report that some of the most considerable of the University's activities are but scantily described in it. It has become the custom for the Directors of laboratories, museums, living collections, and other scientific establishments, to present to the President each an annual report, with mention of the most interesting events of the year and of the publications which have been issued from each laboratory or museum. The departments of the Arts and Sciences which do not maintain laboratories or museums, such as the ancient and modern languages, philosophy, history and government, economics, and mathematics, are comparatively neglected, or passed over in silence, in the Annual Report, except as the reports of the Deans and the Librarian may represent their interests. Yet the activity and productiveness of some of these departments are quite as great as those of the scientific establishments which are always fully represented. To remedy this onesidedness of the Report, it would seem to be necessary to abridge somewhat the reports of the departments already represented, in order to make room for reports

from the departments heretofore unrepresented ; for the size of the President's Report ought not to be increased. The University profits by the publicity given to all its affairs through the Report, but that valuable publicity will be diminished if the size of the volume continues to increase.

The following reports of the Deans of the Faculties and Schools, and the Directors of the Scientific Establishments are commended to the careful attention of the Overseers and the Alumni, and of all friends of the University and students of education. They are full of facts, opinions, and discussions, which for lack of space cannot even be alluded to in the President's own report.

CHARLES W. ELIOT, *President*.

CAMBRIDGE, 9 January, 1906.

REPORTS OF DEPARTMENTS.

THE FACULTY OF ARTS AND SCIENCES.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR,—I have the honor of presenting a report of the work of the Faculty of Arts and Sciences for the academic year 1904–05.

Besides the President, the Faculty contained sixty-nine Professors, two Associate Professors, forty-one Assistant Professors, one Lecturer, twenty-seven Instructors, the Inspector of Grounds and Buildings, and the Recorder,—in all one hundred and forty-three members.

The Faculty of Arts and Sciences is a collection of able and interesting men; and its debates, even when most discursive, are worth hearing: but it is too large and varied a body to do much efficient work in two-hour meetings. As time goes on, more and more of its business is turned over to Boards and Committees, or to Divisions and Departments. In these smaller groups of men nearly all the hard and efficient administrative work of the Faculty is done. Even those committees whose careful plans are sure to be shattered in the discussions of the Faculty, work with as much vigor and enthusiasm as if confident of success, and meet their fate with a calmness that is almost Oriental. As a band of working individuals, the Faculty might be hard to match; but that wonderful variety, which is a great part of its strength, seldom suffers it to act as a unit.

Instruction in 1904–05.

With the following list of courses of instruction that were actually given under the authority of the Faculty, I print a statement of the number and the classification of the students in each course. The figures are those officially returned to the Recorder by the several instructors at the close of the academic year, and take no account of persons who, regularly or irregularly, attended the exercises and did the work of a course without being officially recognized as members of it. The abbreviations are those ordinarily used in such lists :—

COURSES OF INSTRUCTION GIVEN IN 1904-05.

Semitic Languages and History.

For Undergraduates and Graduates:—

1. Professor LYON.—Hebrew (elementary course).
3 Se., 4 Ju., 2 So., 2 Sp., 2 Di. Total 13.
 - 6 hf. Professor LYON.—History of Babylonia and Assyria.
1 Gr., 2 Ju., 1 Di. Total 4.
 12. Professor LYON.—History of Israel, political and social, till the capture of Jerusalem by the Romans.
2 Gr., 2 Se., 7 Ju., 15 So., 3 Fr., 2 Sp., 1 Sc., 2 Di. Total 34.
 16. Professor G. F. MOORE.—History of Hebrew Literature.
2 So., 5 Di. Total 7.
 13. Professor TOY.—History of the Hebrew Religion, with comparison of other Semitic religions.
1 Gr., 1 So., 1 Sp., 10 Di. Total 13.
 - 15 hf. Professor TOY.—History of the Bagdad Califate. Mohammedanism in Egypt and India; Mohammedan Law; The Crusades; Lectures on the Literature; The Korān. 1 Gr., 2 Se., 1 Ju., 2 So., 2 Fr., 1 Di. Total 9.
- Primarily for Graduates:—*
2. Professor TOY.—Hebrew (second course). Interpretation of parts of the Prophets and the Poetical Books. 2 Di. Total 2.
 - 3 hf. Dr. HAYNES.—Jewish Aramaic. Interpretation of parts of Ezra, Daniel, and the Targums. 1 Se., 1 Sp., 1 Di. Total 3.
 - 3a hf. Dr. HAYNES.—Classical Aramaic (Syriac). The Peshitto Version of the New Testament. 1 Se., 3 Di. Total 4.
 - †4. Dr. HAYNES.—Assyrian. 1 Sp. Total 1.
 - †5. Professor LYON.—Assyrian (second course).—The Laws of Hammurabi. 1 Se. Total 1.
 - †7. Dr. HAYNES.—Arabic. Brünnow's Chrestomathy. 1 Sp., 1 Law. Total 2.
 - †8. Professor TOY.—Arabic (second course). The Moallakāt; Motenebbi; Ibn Haldun; the Korān. 1 Se., 1 R. Total 2.
 - 9 hf. Dr. HAYNES.—Ethiopic. Dillmann's Chrestomathy; Enoch. 1 Se. Total 1.
 11. Professor G. F. MOORE.—The Talmud. The Mishna, Moed; The Babylonian Talmud, portions of Berakoth. 1 Se., 1 Sp. Total 2.

COURSE OF RESEARCH.

- 20c. Professor G. F. MOORE.—Old Testament: Principles and Practice of Criticism. 1 Di. Total 1.

Egyptology.

For Undergraduates and Graduates:—

1. Mr. LYTGOE.—The History of Egyptian Art, with an outline, in conclusion, of Graeco-Roman, Christian, and Arab Art in Egypt.
3 Se., 6 Ju., 15 So., 2 Fr., 2 Sc. Total 28.
2. Mr. LYTGOE.—Egyptian Archaeology. Lectures, with work on the Egyptian Collection in the Boston Museum of Fine Arts.
3 Se., 2 Ju., 3 So., 2 Fr. Total 10.

Indic Philology.

For Undergraduates and Graduates : —

1st *hf.* Professor LANMAN. — Elementary Sanskrit. 3 Gr., 1 Se., 1 So. Total 5.

12th *hf.* Professor LANMAN. — Elementary Sanskrit (continued). Episodes from the Mahā-Bhārata. 3 Gr., 1 So. Total 4.

Primarily for Graduates : —

13th *hf.* Dr. RYDER. — Sanskrit. Introduction to the language and literature of the Vedas. Hymns of the Rig-Veda, etc. 1 Gr. Total 1.

13th *hf.* Dr. RYDER. — Sanskrit. Continuation of the study of the Vedas. 1 Gr., 1 R. Total 2.

19th *hf.* Dr. RYDER. — Sanskrit. The Drama. The Little Clay Cart (*Mṛcchakatikā*), ascribed to King Çūdraka, with the commentary of Pṛthvidhara. 1 Gr., 1 R. Total 2.

110th *hf.* Dr. RYDER. — Sanskrit. The Drama. Continuation of the study of the *Mṛcchakatikā*. 1 Gr. Total 1.

14th *hf.* Professor LANMAN. — Pāli. Selections from the Sacred Books of Buddhism : Jātakas, the Buddha-legend, Dialogues of the Buddha, as given in Dines Andersen's Pāli Reader. 2 Gr., 1 R. Total 3.

15th *hf.* Professor LANMAN. — Pāli. The Sacred Books of Buddhism. The Sutta Nipāta. Buddhaghosa's Way of Purity (selected chapters). 2 Gr., 1 R. Total 3.

Classical Philology.

Primarily for Undergraduates : —

GREEK.

B. Professors J. H. WRIGHT and WEIR SMYTH, and Asst. Professor HARRIS. — Greek Literature. Plato; Lysias; Xenophon; Elegiac, Iambic, and Lyric Poets; Euripides. Lectures on the History of Greek Literature. 1 Ju., 4 So., 54 Fr., 2 Sp. Total 61.

E hf. Asst. Professor HARRIS. — Greek Prose Composition (first course). 1 Gr., 1 Ju., 2 So., 12 Fr., 1 Sp. Total 17.

1. Asst. Professor HARRIS. — Greek Literature. The Period of Athenian Supremacy. Herodotus; Aeschylus; Plutarch; Thucydides; Aristophanes; Sophocles. 2 Se., 3 Ju., 7 So., 3 Fr. Total 15.

2. Asst. Professors GULICK and HARRIS. — Greek Literature. Aristophanes; Thucydides; Aeschylus; Sophocles. 3 Ju., 23 So., 1 Fr. Total 27.

3 *hf.* Asst. Professor GULICK. — Greek Prose Composition (second course). 3 Gr., 3 Ju., 12 So. Total 18.

LATIN.

B. Professor HOWARD, Associate Professor C. P. PARKER, Asst. Professor CLIFFORD H. MOORE, and Dr. E. K. RAND. — Latin Literature. Livy; Horace; Terence. 2 Ju., 17 So., 109 Fr., 8 Sp. Total 136.

E hf. Dr. E. K. RAND. — Latin Composition (first course). Translation of English narrative. 1 Gr., 1 Se., 8 So., 17 Fr. Total 27.

1. Professor MORGAN and Associate Professor C. P. PARKER. — Latin Literature. Tacitus; Horace; Catullus. 29 So., 1 Fr., 1 Sp. Total 31.
2. Associate Professor C. P. PARKER and Dr. E. K. RAND. — Latin Literature. Tacitus; General View of Latin Poetry. 1 Gr., 2 Se., 7 Ju., 10 So. Total 20.
- 3 *hf.* Asst. Professor CLIFFORD H. MOORE. — Latin Composition (second course). 2 Gr., 1 Se., 3 Ju., 12 So. Total 18.

For Undergraduates and Graduates: —

GREEK.

6. Professor WEIR SMYTH and Asst. Professor GULICK. — Greek Literature. Demosthenes; Aeschines; Aeschylus; Sophocles; Aristophanes. 6 Gr., 3 Se., 10 Ju., 1 So., 1 Di. Total 21.
- 7 *hf.* Professor J. H. WRIGHT. — Greek Prose Composition (third course). 7 Gr., 5 Se., 1 Ju. Total 13.
- 9 ²*hf.* Professor ROPES. — Introduction to the Study of the New Testament. The Teaching of Jesus Christ and of the New Testament Authors. 7 Se., 8 Ju., 8 So., 2 Sp., 3 Di. Total 28.
8. Professors GOODWIN and J. H. WRIGHT. — Plato; Aristotle. Survey of Greek Philosophy from Thales to Aristotle. 6 Gr., 7 Se., 2 Ju. Total 15.
10. Asst. Professor GULICK. — The Life of the Ancient Athenians, described and illustrated by the aid of the Literature and of the Monuments. 20 Se., 50 Ju., 35 So., 2 Fr., 2 Sp., 9 Sc. Total 118.
11. Professor J. W. WHITE. — History of the Greek Drama. Lectures on the Dramatic Art and Literature of the Greeks, with reading and study of Greek Plays. Aeschylus; Sophocles; Euripides; Aristophanes. 6 Gr., 31 Se., 36 Ju., 47 So., 7 Fr., 3 Sp., 3 Sc., 1 Law. Total 134.

LATIN.

6. Professor HOWARD. — Latin Literature. Suetonius; Pliny; Juvenal; Martial. 4 Gr., 4 Se., 13 Ju., 1 So. Total 22.
- 7 *hf.* Associate Professor C. P. PARKER. — Latin Composition (third course). 8 Gr., 5 Se., 1 Ju. Total 14.
8. Professor MORGAN and Asst. Professor CLIFFORD H. MOORE. — Latin Literature. Plautus; Cicero; Lucretius. 8 Gr., 8 Se., 4 Ju., 1 Sp. Total 21.
15. Professor MORGAN and Dr. E. K. RAND. — The Works of Virgil, with studies of his Sources and of his Literary Influence from his own times to the Renaissance. 9 Gr., 1 Se., 1 Ju., 1 So. Total 12.

Primarily for Graduates: —

CLASSICAL PHILOLOGY.

- 177 ¹*hf.* Asst. Professor GULICK. — Introduction to the critical study of Homer. 8 Gr., 1 Se. Total 9.
- 183 ¹*hf.* Professor WEIR SMYTH. — Pindar (Olympian and Pythian Odes), with some poems of Bacchylides. 7 Gr. Total 7.

38. Professor J. W. WHITE. — The Comedies of Aristophanes.
10 Gr., 1 Se., 1 Ju. Total 12.
- 66¹/₂ Professor MORGAN. — The Philippics of Demosthenes and of Cicero.
3 Gr., 1 Se. Total 4.
- 154¹/₂ Professor ROPES. — The Acts of the Apostles.
2 Gr., 1 So., 2 Di. Total 5.
- 172¹/₂ Professor ROPES. — The Epistles of St. Paul. Selections.
3 Di. Total 3.
- 40¹/₂ Professor MORGAN. — Roman Literary Criticism. Horace, Quintilian, Gellius.
6 Gr. Total 6.
41. Professor SMITH. — Cicero's Correspondence.
2 Gr. Total 2.
- 56¹/₂ Professor HOWARD. — The Reigns of Claudius and Nero. Suetonius (Lives) and Tacitus (Annals XI-XVI).
10 Gr., 4 Se. Total 14.
- 74¹/₂ Asst. Professor CLIFFORD H. MOORE. — The Roman Novel. Petronius and Apuleius.
6 Gr., 2 Se., 3 Ju., 1 Sp. Total 12.
142. Professor WEIR SMYTH. — History of Later Greek Literature (the Alexandrian and Roman periods).
4 Gr., 1 R. Total 5.
- 121¹/₂ Professor WEIR SMYTH. — Introduction to Greek Epigraphy.
8 Gr. Total 8.
- 28¹/₂ Professor HOWARD. — Latin Grammar (Syntax). 6 Gr., 1 Se. Total 7.
- 132¹/₂ Asst. Professor CLIFFORD H. MOORE. — The Religion and Worship of the Romans. Ovid's Fasti.
11 Gr., 2 R. Total 13.
64. Dr. CHASE. — General Introduction to Classical Archaeology.
7 Gr., 1 Se., 1 Ju., 1 So. Total 10.
- 170¹/₂ Dr. CHASE. — The Topography and Monuments of Athens.
3 Gr. Total 3.

20. THE SEMINARY OF CLASSICAL PHILOLOGY.

Professors J. H. WRIGHT and MORGAN, Directors for 1904-05. — Training in philological criticism and research. Text-criticism and interpretation of Greek and Latin authors: for 1904-05, Sophocles and Vitruvius.
10 Gr. Total 10.

English.

Primarily for Undergraduates: —

- A. Professor BRIGGS, Asst. Professor HURLBUT, Mr. COPELAND, Drs. C. F. BROWN and H. DEW. FULLER, and Messrs. NUTTER, W. B. PARKER, E. H. WELLS, STEARNS, UTTER, CARLETON, H. S. V. JONES, W. R. CASTLE, and AYRES. — Rhetoric and English Composition.
8 So., 889 Fr., 43 Sp., 119 Sc., 4 Bu. Total 563.
- BChf. Messrs. T. HALL and HACKETT. — English Composition.
1 Gr., 1 Se., 53 Sc. Total 55.
31. Asst. Professor GARDINER, and Messrs. W. B. PARKER, E. H. WELLS, and HERSEY. — English Composition.
1 Se., 11 Ju., 109 So., 69 Fr., 10 Sp., 11 Sc. Total 211.

22. Drs. MAYNADIER and WEBSTER, and Mr. W. B. PARKER. — English Composition. 7 Se., 35 Ju., 34 So., 2 Fr., 9 Sp., 3 Sc. Total 90.
- 28 *hf.* Professors BRIGGS and KITTREDGE, Asst. Professor BAKER, Dr. BLISS PERRY, and Mr. T. HALL. — English Literature. History and Development of English Literature in outline. 101 Fr., 9 Sp. Total 110.
18. Asst. Professor BAKER, and Messrs. KELSO and R. L. LYMAN. — The Forms of Public Address. 1 Gr., 12 Se., 36 Ju., 25 So., 2 Sp., 1 Sc. Total 77.
- 30 ¹ or ² *hf.* Asst. Professor BAKER and Mr. R. L. LYMAN. — Debating. 2 Gr., 13 Se., 16 Ju., 6 So., 1 Sp., 1 Sc. Total 39.

For Undergraduates and Graduates : —

- 3a ¹ *hf.* Asst. Professor SCHOFIELD. — Anglo-Saxon. 20 Gr., 5 Se., 8 Ju., 1 Law. Total 34.
1. Professor KITTREDGE and Asst. Professor SCHOFIELD. — English Literature. Chaucer. 19 Gr., 2 Se., 2 Ju., 1 So. Total 24.
35. Asst. Professor GARDINER. — English Literature. The English Bible. 8 Se., 7 Ju., 6 So., 1 Sp. Total 22.
2. Professor KITTREDGE. — English Literature. Shakspeare (six plays). 24 Gr., 14 Se., 35 Ju., 36 So., 2 Fr., 7 Sp., 1 Sc., 1 Bu. Total 120.
- 11a ¹ *hf.* Asst. Professor F. N. ROBINSON — English Literature. Bacon. 3 Gr., 10 Se., 7 Ju., 11 So., 4 Fr., 1 Sp. Total 36.
- 11b ² *hf.* Asst. Professor F. N. ROBINSON. — English Literature. Milton. 5 Gr., 9 Se., 16 Ju., 42 So., 5 Fr., 6 Sp., 5 Sc. Total 88.
- 32a ¹ *hf.* Dr. H. DEW. FULLER. — English Literature of the Elizabethan Period. From Tottel's Miscellany to the death of Spenser (1557–1599). 1 Gr., 11 Se., 13 Ju., 19 So., 5 Fr., 1 Sc., 1 Me. Total 51.
- 7a ¹ *hf.* Mr. COPELAND. — English Literature of the Period of Queen Anne. From the death of Dryden to the death of Swift (1700–1745). 10 Gr., 29 Se., 21 Ju., 51 So., 6 Fr., 5 Sp., 2 Sc. Total 124.
- 7b ² *hf.* Dr. MAYNADIER. — English Literature. From the death of Swift to the publication of the Lyrical Ballads (1745–1798). 18 Gr., 24 Se., 36 Ju., 76 So., 17 Fr., 8 Sp., 3 Sc. Total 182.
- 8b ² *hf.* Dr. C. F. BROWN. — English Literature. From the death of Scott to the death of Tennyson (1832–1892). 14 Gr., 21 Se., 18 Ju., 38 So., 8 Fr., 4 Sp., 1 Sc. Total 99.
- 37 ¹ *hf.* Dr. MAYNADIER. — English Literature. The Story of King Arthur. 2 Gr., 3 Se., 3 Ju., 9 So., 1 Fr., 1 Sp. Total 19.
12. Professor BRIGGS. — English Composition. 9 Gr., 14 Se., 11 Ju., 7 So., 2 Sp., 1 Di. Total 44.
- Primarily for Graduates : —*
- 19 ² *hf.* Asst. Professor F. N. ROBINSON. — Historical English Grammar. 12 Gr. Total 12.
- 16 *hf.* Professor BRIGGS. — History and Principles of English Versification. 7 Gr., 3 Se., 1 Ju., 2 So. Total 13.

- 35¹/₂f. Professor KITTREDGE. — Anglo-Saxon. *Béowulf*.
19 Gr., 2 Se., 2 Ju., 1 Law. Total 24.
4. Asst. Professor SCHOFIELD and Dr. WEBSTER. — Early English. *English Literature from 1200 to 1450*.
15 Gr. Total 15.
- 31¹/₂f. Professor KITTREDGE. — Early English. *The Metrical Romances*.
10 Gr. Total 10.
14. Asst. Professor BAKER. — English Literature. *The Drama from the Miracle Plays to the Closing of the Theatres*.
26 Gr., 7 Se., 9 Ju., 1 So., 1 Sp. Total 44.
- 39¹/₂f. Asst. Professor BAKER. — English Literature. *The Drama in England from 1642 to 1900*.
9 Gr., 15 Se., 8 Ju., 4 So., 1 Sp. Total 37.
- 5¹/₂f. Professor A. S. HILL and Dr. MAYNADIER. — English Composition (advanced course).
11 Gr., 6 Se., 4 Ju., 1 So. Total 22.

COURSES OF RESEARCH.

20. The instructors in English held themselves ready to assist and advise competent Graduate Students who might propose plans of special study in the language or literature of the periods, or in the topics, mentioned below. Such plans, however, must in each case have met the approval of the Department.

I. PERIODS.

- b. Professor KITTREDGE. — Middle English. 1 Gr. Total 1.

II. TOPICS.

- g. Asst. Professor BAKER. — The English Drama: its history, and its relation to Continental Drama. 3 Gr. Total 3.

Public Speaking.

Primarily for Undergraduates: —

1. Messrs. HILLS and WILLARD. — Voice Cultivation. Vocal exercises, and elementary training in speech.
2 Gr., 2 Se., 5 Ju., 7 So., 17 Fr., 2 Sp. Total 35.
- 2¹/₂f. Asst. Professor WINTER and Mr. R. L. LYMAN. — Platform Speaking. Oral practice, mainly on selected speeches representing various forms of public address.
2 Gr., 12 Se., 20 Ju., 29 So., 4 Fr., 6 Sp., 1 Sc. Total 74.
- 3¹/₂f. Asst. Professor WINTER and Mr. R. L. LYMAN. — Masterpieces of Public Discourse. Study, and oral discussion on topics taken from history, biography, and criticism, connected with the subject of the course. Practice in impromptu speaking.
3 Se., 9 Ju., 7 So. Total 19.
- 4¹/₂f. Asst. Professor WINTER and Mr. HILLS. — Dramatic Interpretation. Study and oral practice, as a basis for public presentation of characters in classic drama or for criticism of such presentation. Impromptu discussion.
1 Gr., 2 Se., 4 Ju., 1 Fr., 1 Law. Total 9.

Germanic Languages and Literatures.

GERMAN.

Primarily for Undergraduates:—

A. Asst. Professor BIERWIRTH, Dr. RYDER, and Messrs. WEBER, STURTEVANT, COLWELL, HAGENS, BRIGGS, GROSSMANN, and LIEDER.—Elementary Course.

3 Gr., 5 Se., 8 Ju., 22 So., 205 Fr., 19 Sp., 27 Sc. Total 289.

D. Asst. Professor BIERWIRTH and Mr. HAGENS.—Elementary Course.

1 Ju., 1 So., 1 Sp., 26 Sc. Total 29.

B. Mr. W. G. HOWARD.—Elementary Course (counting as two courses).

1 Ju., 1 So., 18 Fr., 8 Sp. Total 28.

C. Dr. SKINNER and Mr. MUENTER.—German Prose and Poetry.

3 Se., 1 Ju., 8 So., 30 Fr., 5 Sp., 6 Sc. Total 53.

1a. Asst. Professor BIERWIRTH and Dr. SKINNER.—German Prose and Poetry.

2 Ju., 47 So., 8 Fr., 4 Sp., 3 Sc., 1 Di. Total 65.

1b. Professor H. S. WHITE, Professor WALZ (Cornell University), and Mr. COLWELL.—German Prose. Subjects in History and Biography.

1 Gr., 1 Se., 7 Ju., 46 So., 13 Fr., 1 Sp., 8 Sc. Total 77.

1c. Messrs. STURTEVANT and GROSSMANN.—German Prose, narrative and descriptive.

9 Ju., 15 So., 3 Fr., 22 Sc., 1 Bu. Total 50.

Fhf. Mr. MUENTER.—Practice in speaking and writing German (first course).

11 Ju., 5 So., 2 Fr., 2 Sp., 1 Sc. Total 21.

2a. Mr. W. G. HOWARD and Dr. SKINNER.—Introduction to German Literature of the Eighteenth and Nineteenth Centuries. Lessing, Goethe, and Schiller; German Ballads and Lyrics.

6 Ju., 11 So., 34 Fr., 1 Sp., 3 Sc. Total 55.

2b. Professor H. S. WHITE, Professor WALZ (Cornell University), and Dr. SKINNER.—Introduction to German Literature of the Eighteenth and Nineteenth Centuries. Lessing, Goethe, and Schiller; German Ballads and Lyrics.

3 Se., 29 Ju., 26 So., 22 Fr., 7 Sp., 5 Sc. Total 92.

3. Asst. Professor BIERWIRTH.—Schiller and his Time. *Der Dreissigjährige Krieg; Wallenstein; Maria Stuart; Die Jungfrau von Orleans; Die Braut von Messina; Gedichte.*

1 Se., 8 Ju., 15 So., 4 Fr., 1 Sp. Total 29.

4. Professor FRANCKE.—Goethe and his Time. *Götz von Berlichingen; Egmont; Iphigenie; Tasso; Dichtung und Wahrheit; Gedichte; Faust.*

4 Se., 17 Ju., 26 So., 8 Fr., 1 Sp., 2 Sc. Total 58.

For Undergraduates and Graduates:—

Ghf. Asst. Professor BIERWIRTH.—German Grammar and practice in writing German (advanced course).

6 Gr., 1 Se., 1 Law. Total 8.

5. Professor FRANCKE and an assistant.—German Literature of the Classic Period of the Eighteenth Century. 3 Gr., 5 Se., 6 Ju., 7 So. Total 21.

26a hf. Mr. W. G. HOWARD.—German Literature in the first half of the Nineteenth Century. Kleist; Uhland; Heine.

5 Gr., 2 Se., 5 Ju., 2 So., 1 Sp. Total 15.

365¹/₂ Mr. W. G. HOWARD. — German Literature in the second half of the Nineteenth Century. The Development of the Novel and the Drama.
4 Gr., 2 Se., 5 Ju., 2 So., 1 Fr., 1 Sp. Total 15.

30. Professor H. S. WHITE and Professor WALZ (Cornell University). — Lessing's Life and Works. Selections from Lessing's dramatic and critical writings and from his correspondence, with some examination of his views on literary, artistic, and religious questions.
4 Gr., 7 Se., 9 Ju., 11 So., 2 Sp., 1 Sc., 1 Di. Total 35.

8. Professor MENSEL (Smith College). — German Literature in the Twelfth and Thirteenth Centuries. Nibelungenlied; Kudrun; Hartmann; Wolfram; Walther von der Vogelweide. Translation into modern German.
3 Gr., 1 Se. Total 4.

Primarily for Graduates :—

12a¹/₂ Professor MENSEL (Smith College). — Gothic. Introduction to the study of Germanic Philology. General Introduction and Phonology.
13 Gr., 2 Se. Total 15.

12b¹/₂ Professor MENSEL (Smith College). — Introduction to the study of Germanic Philology (continued). Morphology, Etymology.
3 Gr., 1 Se. Total 4.

115¹/₂ A. Prof. BIERWIRTH. — Old High German. 2 Gr. Total 2.

131. Professor MENSEL (Smith College). — History of the German Language. Introduction. Phonology. Accidence. 3 Gr. Total 3.

SEMINARY COURSE IN GERMANIC LANGUAGES AND LITERATURES.

Primarily for Graduates :—

120c. Professor FRANCKE. — Studies in Later German Romanticism. The National Revival after 1806; The Reaction after 1815. 5 Gr., 1 R. Total 6.

SCANDINAVIAN LITERATURE.

For Undergraduates and Graduates :—

1. A. Prof. SCHOFIELD. — Modern Danish and Norwegian Literature. Holberg, Oehlenschläger, Ibsen, Björnson, and other writers. Practice in the spoken language. Lectures on the history of Scandinavian Literature.
2 Gr., 2 Ju., 1 So., 1 Sp. Total 6.

Romance Languages and Literatures.

FRENCH.

Primarily for Undergraduates :—

4. Dr. MORLEY, and Messrs. UNDERWOOD, WHITTEM, and SNOW. — Elementary Course. 5 Gr., 4 Se., 2 Ju., 8 So., 78 Fr., 18 Sp., 29 Sc. Total 144.

1c. Dr. MORLEY. — Reading, translation, grammar, and composition.
2 Ju., 1 So., 29 Sc. Total 32.

1b. A. Prof. BABBITT, Dr. M. A. POTTER, and Messrs. F. W. BROWN and SNOW. — French Prose, historical and general. Translation from French into English.

1 Se., 6 Ju., 43 So., 42 Fr., 11 Sp., 6 Sc. Total 109.

- 1a. Associate Professor DE SUMICHRIST and Mr. BRUN. — Reading, translation, grammar, and composition.

4 Se., 4 Ju., 22 So., 14 Fr., 2 Sp., 2 Sc. Total 48.

- 2c. Asst. Professor MARCOU, Drs. M. A. POTTER and MORLEY, and Messrs. F. W. BROWN, BAULIG, and WHITTEM. — French Prose and Poetry. Corneille; Racine; Molière; Beaumarchais; Lamartine; Victor Hugo; Alfred de Musset; Balzac. Composition.

4 Se., 15 Ju., 58 So., 102 Fr., 7 Sp., 10 Sc. Total 196.

- 2a. Asst. Professor C. H. C. WRIGHT, and Messrs. BRUN and SNOW. — French Prose and Poetry. Corneille; Racine; Molière; Victor Hugo; George Sand; Alfred de Musset; Sainte-Beuve. Composition.

1 Gr., 3 Se., 9 Ju., 26 So., 61 Fr., 3 Sp., 4 Sc. Total 107.

- 4 hf. Mr. BRUN. — Practice in speaking and writing French (intermediate course).

1 Gr., 1 Se., 1 Ju., 2 So., 1 Fr., 1 Sp., 2 Sc. Total 9.

- 5 hf. Mr. BRUN. — Practice in speaking and writing French (advanced course).

1 Gr., 2 Ju., 1 Law. Total 4.

For Undergraduates and Graduates: —

- 6c. Professor GRANDGENT. — General view of French Literature.

2 Gr., 2 Se., 2 Ju., 19 So., 1 Fr. Total 26.

6. Associate Professor DE SUMICHRIST. — General view of French Literature.

2 Se., 15 Ju., 32 So., 2 Fr., 2 Sp., 2 Sc. Total 55.

14. Asst. Professor MARCOU. — French Lyric Poetry from Villon and the Fifteenth Century to the present time.

3 Ju., 2 So. Total 5.

- 7a hf. Associate Professor DE SUMICHRIST. — French Literature in the first half of the Nineteenth Century.

3 Gr., 9 Se., 17 Ju., 3 So., 1 Sp. Total 38.

- 7b hf. Associate Professor DE SUMICHRIST. — French Literature in the second half of the Nineteenth Century.

2 Gr., 7 Se., 14 Ju., 3 So. Total 26.

9. Asst. Professor C. H. C. WRIGHT. — French Literature in the Seventeenth Century.

2 Gr., 6 Ju., 1 So. Total 9.

10. Asst. Professor C. H. C. WRIGHT. — French Literature in the Sixteenth Century.

2 Gr., 3 Se., 1 Ju., 1 So. Total 7.

Primarily for Graduates: —

- 19 hf. Asst. Professor MARCOU. — Historical French Syntax.

1 Gr. Total 1.

11. Professor SHEDDEN. — Old French Literature. Rapid reading of texts, with consideration of their literary relations.

5 Gr. Total 5.

ITALIAN.

Primarily for Undergraduates: —

1. Asst. Professor FORD and Mr. UNDERWOOD. — Elementary Course.

1 Gr., 14 Ju., 22 So., 8 Fr., 2 Sp., 1 Sc. Total 48.

For Undergraduates and Graduates: —

2. Asst. Professor FORD. — Italian Literature of the Fifteenth and Sixteenth Centuries. Torquato Tasso, Ariosto, Machiavelli, Benvenuto Cellini.

2 Gr., 2 Se., 6 Ju., 4 So. Total 14.

10. Professor GRANDGENT. — The Works of Dante, particularly the Vita Nuova and the Divine Comedy.

5 Gr., 1 Ju., 1 So. Total 7.

SPANISH.

Primarily for Undergraduates:—

1. Drs. M. A. POTTER and MORLEY, and Messrs. WHITTEM and SNOW.—Elementary Course.

3 Se., 33 Ju., 50 So., 26 Fr., 3 Sp., 3 Sc., 1 Bu. Total 119.

For Undergraduates and Graduates:—

- 4¹/₂ Asst. Professor FORD.—A general view of Spanish Literature.

4 Gr., 1 Ju., 3 So., 1 Sp., 1 Law. Total 10.

2. Asst. Professor MARCOU.—Spanish Literature of the Sixteenth and Seventeenth Centuries. Cervantes; Lope de Vega; Calderón.

1 Gr., 1 Se., 7 Ju., 2 So., 1 Fr., 1 Sp. Total 13.

Primarily for Graduates:—

3. Asst. Professor FORD.—Early Spanish. The Poem of the Cid. Spanish Literature to the Fifteenth Century.

10 Gr., 1 Se. Total 11.

ROMANCE PHILOLOGY.

Primarily for Graduates:—

3. Professor SHELDON.—Old French. Phonology and inflections. The oldest texts. La Chanson de Roland; Chrétien de Troyes; Aucassin et Nicolette.

12 Gr., 1 Ju. Total 13.

4. Professor GRANDGENT and Dr. M. A. POTTER.—Provençal. Language and literature, with selections from the poetry of the troubadours.

8 Gr. Total 8.

- 5¹/₂ Asst. Professor GRANDGENT.—Low Latin.

7 Gr. Total 7.

- 6³/₄ Asst. Professor FORD.—Portuguese. Language and Literature. Old Portuguese lyric verse: Gil Vicente; Sá de Miranda; Camões.

9 Gr., 1 Se., 2 Instr. Total 12.

COURSE OF SPECIAL STUDY.

- 120d. Professor SHELDON.—Opportunities were afforded to competent students for the investigation of special subjects in Romance Philology.

1 Gr. Total 1.

Comparative Literature.

For Undergraduates and Graduates:—

2. Professor SHELDON.—Mediaeval Literature in the vulgar tongues, with especial reference to the influence of France and Provence.

4 Gr. Total 4.

5. Asst. Professor BABBITT.—The Romantic Movement in the Nineteenth Century.

1 Gr., 1 Se., 1 So. Total 3.

12. Asst. Professor BABBITT.—Literary Criticism since the Sixteenth Century.

6 Gr., 1 Sp. Total 7.

Celtic.

Primarily for Graduates:—

- 1¹/₂ Asst. Professor F. N. ROBINSON.—Old Irish. General introduction to Celtic Philology.

1 Gr. Total 1.

- 2³/₄f. Asst. Professor F. N. ROBINSON. — Middle Irish. Lectures on the history of Irish Literature. 1 Gr. Total 1.

RESEARCH COURSE.

20. Asst. Professor F. N. ROBINSON. — Middle Welsh. 1 Gr. Total 1.

Slavic Languages.

For Undergraduates and Graduates: —

- 1a. Asst. Professor WIENER. — Russian. 1 Gr., 1 Ju., 4 So., 1 Sp. Total 7.
 1b. Asst. Professor WIENER. — Russian. Literature of the Nineteenth Century. Pushkin, Gogol, Turgenev, Tolstoy. Composition. 1 So., 1 Sp. Total 2.
 2b. Asst. Professor WIENER. — Polish. Literature of the Nineteenth Century. Mickiewicz; Krasinski; Slowacki; Pol; Kalina; Sienkiewicz. 1 So. Total 1.
 4¹/₂f. Asst. Professor WIENER. — Introduction to the History of Russian Literature. 1 Gr., 8 Se., 15 Ju., 24 So., 13 Fr., 2 Sp., 2 Sc. Total 65.

History and Political Science.

HISTORY.

Primarily for Undergraduates: —

- 1a. Professor HASKINS, assisted by Messrs. BINGHAM, FRYER, OGG, and PAULOW. — Mediæval History (introductory course). 39 So., 294 Fr., 39 Sp., 8 Sc. Total 380.

For Undergraduates and Graduates: —

3. Professor HASKINS. — History of Rome to the reign of Diocletian. 11 Gr., 4 Se., 4 Ju., 8 So., 4 Fr., 2 Sp., 1 Sc. Total 34.
 6. Professor EMERTON. — General Church History to the End of the Seventeenth Century. 2 Gr., 2 Se., 1 Ju., 1 So., 2 Di. Total 8.
 7. Professor EMERTON. — The Era of the Reformation in Europe from the rise of Italian Humanism to the close of the Council of Trent (1350–1563). 11 Gr., 1 Se., 1 Ju., 1 So. Total 14.
 8. Professor GROSS. — History of France to the Reign of Francis I. 5 Gr., 4 Se., 2 Ju., 4 So. Total 15.
 9. Professor GROSS. — Constitutional History of England to the Sixteenth Century. 12 Gr., 5 Se., 10 Ju., 6 So., 1 Sp. Total 34.
 12a ¹/₂f. Professor MACVANE, assisted by Mr. BURLEY. — English History from the Revolution of 1688 to the Reform of Parliament. 8 Gr., 20 Se., 24 Ju., 22 So. Total 74.
 12b ¹/₂f. Professor MACVANE, assisted by Mr. BURLEY. — English History since the Reform of Parliament. 5 Gr., 14 Se., 30 Ju., 27 So., 1 Fr. Total 77.
 27. Dr. MERRIMAN. — European History in the Sixteenth and Seventeenth Centuries: principally of France, Germany, and the Netherlands. 5 Gr., 5 Se., 3 Ju., 11 So., 4 Fr. Total 28.

- 16a ¹/₂f. Professor MACVANE, assisted by Mr. BEATMAN. — History of Continental Europe from the Peace of Utrecht to the Fall of Napoleon I.
6 Gr., 18 Se., 34 Ju., 101 So., 11 Fr., 6 Sp., 3 Sc. Total 179.
- 16b ¹/₂f. Professor MACVANE, assisted by Mr. BEATMAN. — History of Continental Europe since the Fall of Napoleon I.
7 Gr., 16 Se., 33 Ju., 88 So., 9 Fr., 3 Sp., 3 Sc. Total 159.
- 18a ¹/₂f. Asst. Professor COOLIDGE, assisted by Mr. BLAIR. — The Expansion of Europe since 1815.
5 Gr., 29 Se., 18 Ju., 8 So., 1 Fr., 4 Sp., 1 Sc. Total 66.
- 18b ¹/₂f. Asst. Professor COOLIDGE, assisted by Mr. BLAIR. — Studies in the Expansion of Europe since 1815. 1 Gr., 7 Se., 6 Ju. Total 14.
15. Asst. Professor COOLIDGE. — History of North-Eastern Europe (Denmark, Sweden, Poland, Russia) from 1453 to 1795.
3 Gr., 3 Se., 3 Ju., 1 So. Total 10.
30. Mr. JOHNSTON. — History of Italy from 1789 to 1870. 2 Se., 1 Ju. Total 3.
10. Professor CHANNING, assisted by Mr. USHER. — American History to 1783.
5 Gr., 5 Se., 61 Ju., 74 So., 2 Fr., 9 Sp., 3 Sc. Total 159.
13. Professor A. B. HART, assisted by Mr. SHEPARD. — Constitutional and Political History of the United States (1783-1865).
6 Gr., 9 Se., 69 Ju., 47 So., 8 Fr., 4 Sp., 1 Sc. Total 139.

Primarily for Graduates: —

- ‡17 ¹/₂f. Professor J. H. WRIGHT. — Introduction to Greek Constitutional History.
2 Gr., 1 Ju., 1 So., 1 R. Total 5.
- ‡21. Professor HASKINS. — Introduction to the Sources of Mediaeval History.
3 Gr., 1 R. Total 4.
- ‡24. Professor E. C. MOORE. — The Church since the Reformation.
2 Gr., 3 Se., 4 So., 1 Sp., 3 Di., 1 R. Total 14.
- 23a ¹/₂f. Professor CHANNING. — Selected Topics in the historical development of American Institutions. Early American History. 10 Gr. Total 10.
- 23b ¹/₂f. Professor CHANNING. — Selected Topics in the historical development of American Institutions. The Administrations of Thomas Jefferson.
7 Gr. Total 7.

COURSES OF RESEARCH.

- ‡20b. Professor GROSS. — English Institutions in the Middle Ages.
1 Gr., 1 R. Total 2.
- 20c. Professors CHANNING and HART. — American History and Institutions.
8 Gr. Total 8.
- ‡20i. Professor J. H. WRIGHT. — Greek Constitutional History. 1 R. Total 1.

GOVERNMENT.

Primarily for Undergraduates: —

1. Professor LOWELL, assisted by Dr. PHILBRICK, and Messrs. GEORGE, CLARK, and FIRE. — Constitutional Government (elementary course).
2 Ju., 153 So., 238 Fr., 28 Sp., 10 Sc. Total 431.

For Undergraduates and Graduates:—

4. Professor MACVANE, assisted by Mr. H. C. JONES. — Elements of International Law. 11 Gr., 14 Se., 20 Ju., 3 So., 1 Fr., 1 Sc. Total 50.
- 6 ¹/_{hf}. Dr. PHILBRICK. — History of Political Theories. 4 Gr., 1 Ju., 7 So., 1 Fr. Total 18.
- 8 ¹/_{hf}. Professor EMERTON. — Selected Topics from the Canon Law, with especial reference to the development of the Church Constitution. 1 Se. Total 1.
11. Dr. MUNRO. — Colonial Governments. 1 Gr., 4 Se., 7 Ju., 19 So., 4 Fr., 2 Sp. Total 37.
17. Dr. MUNRO. — Municipal Government. 4 Gr., 14 Se., 35 Ju., 29 So., 2 Fr., 2 Sp., 2 Sc., 1 Law. Total 89.

Primarily for Graduates:—

10. Professor LOWELL. — Modern English Government. Studies in the existing political system and in the influence of political parties. 8 Gr., 1 Se., 3 Ju., 1 So. Total 18.
12. Professor A. B. HART. — The American Political System, national, state, and municipal. 17 Gr., 7 Se., 2 Ju. Total 26.
- 19 ¹/_{hf}. Professor WAMBAUGH. — Constitutional Law. 3 Gr. Total 3.
- 21 ¹/_{hf}. Mr. E. M. PARKER. — Comparative Administration. European and American Systems. 1 Se., 1 So. Total 2.
- 15 ¹/_{hf}. Professor BEALE. — International Law as administered by the Courts. Scott's *Cases in International Law*, and selected French, German, and Italian cases. 5 Gr. Total 5.

Economics.*Primarily for Undergraduates:—*

1. Professor TAUSSIG, Asst. Professor ANDREW, and Messrs. CUSTIS, J. A. FIELD, HOWLAND, MARTIN, and WRIGHT. — Outlines of Economics. 10 Se., 84 Ju., 232 So., 54 Fr., 28 Sp., 30 Sc. Total 438.

For Undergraduates and Graduates:—

2. Professor TAUSSIG. — Economic Theory. 6 Gr., 2 Se., 11 Ju., 1 So., 2 Sp. Total 22.
3. Professor CARYER and Mr. J. A. FIELD. — Principles of Sociology. Theories of Social Progress. 10 Gr., 7 Se., 18 Ju., 7 So., 2 Sp., 3 Di. Total 47.
4. Professor RIPLEY. — Statistics. Theory, method, and practice. 7 Gr., 1 Se., 2 So., 1 Sp. Total 11.
- 5 ¹/_{hf}. Professor RIPLEY and Mr. DAGGETT. — Economics of Transportation. 5 Gr., 54 Se., 47 Ju., 25 So., 2 Fr., 2 Sp., 4 Sc. Total 139.
6. Asst. Professor SPRAGUE. — Economic and Financial History of the United States. 9 Gr., 18 Se., 42 Ju., 12 So., 2 Sp., 1 Law. Total 79.
- 7a ¹/_{hf}. Asst. Professor BULLOCK. — Introduction to Public Finance. 5 Gr., 8 Se., 7 Ju., 5 So., 1 Law. Total 26.
- 7b ¹/_{hf}. Asst. Professor BULLOCK. — Theory and Methods of Taxation. 5 Gr., 8 Se., 16 Ju., 12 So., 1 Fr., 1 Sp., 2 Sc. Total 45.

8a ¹/₂f. Asst. Professor ANDREW. — Money. A general survey of currency legislation, experience, and theory in recent times.

5 Gr., 5 Se., 28 Ju., 22 So., 4 Fr., 1 Sp., 3 Sc. Total 68.

8b ¹/₂f. Asst. Professor SPRAGUE. — Banking and the History of the leading Banking Systems. 5 Gr., 24 Se., 37 Ju., 13 So., 2 Fr., 1 Sc. Total 82.

9a ¹/₂f. Professor RIPLEY and Mr. CUSTIS. — Problems of Labor.

10 Gr., 29 Se., 59 Ju., 23 So., 3 Sp., 3 Sc., 1 Law. Total 128.

9b ³/₄f. Professor RIPLEY and Mr. CUSTIS. — Economics of Corporations.

17 Gr., 31 Se., 95 Ju., 34 So., 1 Fr., 6 Sp., 6 Sc. Total 190.

10 ¹/₂f. Asst. Professor GAY. — Mediaeval Economic History of Europe.

1 Gr. Total 1.

11. Asst. Professor GAY. — Modern Economic History of Europe.

3 Gr., 2 Se., 1 Ju., 1 So. Total 7.

12a ¹/₂f. Asst. Professor SPRAGUE. — International Trade.

5 Gr., 7 Se., 3 Ju., 1 So., 2 Sp. Total 18.

12b ¹/₂f. Asst. Professor ANDREW. — Commercial Crises and Cycles of Trade.

2 Gr., 24 Se., 6 Ju., 6 So., 1 Sp., 2 Sc. Total 41.

14a ¹/₂f. Professor CARVER. — The Distribution of Wealth.

5 Gr., 23 Se., 12 Ju., 6 So., 2 Sp., 1 Sc., 2 Di., 1 Law. Total 52.

14b ¹/₂f. Professor CARVER. — Methods of Social Reform. Socialism, Communism, the Single Tax, etc.

10 Gr., 25 Se., 26 Ju., 13 So., 1 Sp., 2 Sc., 2 Di. Total 79.

16 ¹/₂f. Asst. Professor BULLOCK. — Financial History of the United States.

4 Se., 1 Ju., 1 Sp. Total 6.

18 ¹/₂f. Mr. W. M. COLE. — Principles of Accounting.

7 Gr., 14 Se., 2 Ju., 1 So., 1 Sp., 2 Sc. Total 27.

21. Asst. Professor WYMAN. — Principles of Law governing Industrial Relations and Commercial Law.

14 Gr., 65 Se., 76 Ju., 15 So., 1 Sp., 9 Sc., 2 Law. Total 182.

Primarily for Graduates:—

†13 ¹/₂f. Professor CARVER. — Methods of Economic Investigation.

2 Gr., 2 Se. Total 4.

15. Asst. Professor BULLOCK. — History and Literature of Economics to the year 1848.

3 Gr. Total 3.

22. Asst. Professor GAY. — German and French Economists of the Nineteenth Century.

3 Gr. Total 3.

COURSES OF RESEARCH.

†20a. Asst. Professor GAY. — Selected Topics in English Economic History.

1 Gr., 1 R. Total 2.

20b. Asst. Professor ANDREW. — Theories of Crises.

1 Gr., 1 Se. Total 2.

THE SEMINARY IN ECONOMICS.

20. Competent students were guided in investigation, undertaken independently or in connection with courses primarily for graduates; and the results were presented for discussion.

8 Gr. Total 8.

History of Religions.

For Undergraduates and Graduates :—

2. Professor G. F. MOORE. — History of Religions in Outline. The Religions of China and Japan, Egypt, Babylonia and Assyria, and the Western Semites (including Judaism and Mohammedanism). The Religions of India, Persia, the Greeks, Romans, Germans, and Celts; Christianity.
11 Gr., 25 Se., 12 Ju., 24 So., 3 Fr., 4 Sp., 2 Sc., 8 Di. Total 89.

Philosophy.

Primarily for Undergraduates :—

- 1a. Professors ROYCE and MÜNSTERBERG. — General Introduction to Philosophy. Logic. Psychology.
2 Gr., 67 Ju., 87 So., 31 Fr., 11 Sp., 17 Sc. Total 215.
- 1b. Professor PALMER and Dr. R. B. PERRY. — Outlines of the History of Philosophy, Ancient and Modern.
1 Gr., 38 Ju., 45 So., 10 Fr., 10 Sp. Total 104.

For Undergraduates and Graduates :—

- 2 ¹/_{hf}. Dr. HOLT. — Advanced Psychology.
4 Gr., 2 Se., 3 Ju., 1 So., 1 Sp. Total 11.
- 13a ¹/_{hf}. Dr. YERKES. — Comparative Psychology (Phylogenetic).
7 Gr., 6 Se., 3 Ju., 1 Sc. Total 17.
- 13b ²/_{hf}. Dr. YERKES. — Mental Development (Ontogenetic).
9 Gr., 7 Se., 10 Ju., 8 So., 1 Fr., 1 Sp., 3 Sc. Total 39.
- 14 ¹/_{hf}. Dr. HOLT. — Experimental Psychology (elementary laboratory course).
3 Gr., 1 Se., 4 Ju., 2 So., 1 Sp. Total 11.
3. Dr. R. B. PERRY. — The Philosophy of Nature, with especial reference to Man's place in Nature. Fundamental Conceptions of Natural Science, and their relation to Ethical and Religious Truth.
3 Gr., 2 Se., 4 Ju., 1 So., 1 Di. Total 11.
4. Professor PALMER. — Ethics. The Theory of Morals, considered constructively.
12 Gr., 11 Se., 11 Ju., 6 So., 4 Sp., 9 Di. Total 53.
- 5 ¹/_{hf}. Professor PRABODY, assisted by Dr. ROGERS. — Ethics of the Social Questions. The problems of Poor-Relief, the Family, Temperance, and various phases of the Labor Question, in the light of ethical theory.
7 Gr., 35 Se., 47 Ju., 12 So., 1 Fr., 4 Sp., 5 Sc., 11 Di. Total 122.
- 19 ¹/_{hf}. Dr. BRACKETT. — Practical Problems of Charity, Public Aid and Correction.
4 Gr., 16 Se., 6 Ju., 1 So., 2 Sp., 4 Di. Total 33.
9. Professors JAMES and ROYCE. — Metaphysics. The Fundamental Problems of Theoretical Philosophy. The Nature of Reality; Monism and Pluralism; Freedom, Teleology, and Theism.
14 Gr., 6 Se., 8 Ju., 1 So., 1 Sp., 5 Di. Total 35.
12. Dr. R. B. PERRY. — Greek Philosophy, with especial reference to Plato.
3 Gr., 1 Ju., 1 So. Total 5.

11a¹/₂. Dr. WOODS. — Descartes, Spinoza, and Leibnitz.

1 Gr., 1 Se., 2 Ju., 1 So. Total 5.

8. Professor ROYCE. — The Kantian Philosophy.

6 Gr., 1 Ju., 1 So., 1 Di. Total 9.

17. Professor E. C. MOORE. — History of Christian Thought since Kant.

1 Gr., 3 Se., 1 Ju., 23 Di. Total 28.

11¹/₂. Dr. WOODS. — Science of Religion.

4 Gr., 1 Ju., 2 Di. Total 7.

SEMINARY COURSES.

Primarily for Graduates : —

120a. Professor MÜNSTERBERG, and Drs. HOLT and YERKES. — Psychological Laboratory. Experimental investigations.

6 Gr., 1 Ju., 3 Di., 2 R., 1 Lectr. Total 11.

204. Professor MÜNSTERBERG. — Psychological Seminary. Mind and Body.

11 Gr., 1 Di. Total 12.

120c. Professor ROYCE. — Logical Seminary. The Logical Analysis of Fundamental Concepts and their General Relations to Philosophical Problems.

7 Gr., 1 Sp., 2 Di., 2 R. Total 12.

120d. Professor PALMER. — Ethical Seminary. The Ethics of German Idealism.

10 Gr., 1 Se., 2 Di., 3 R. Total 16.

120e. Professor PRABODY. — Sociological Seminary. Religion and the Social Question.

3 Gr., 13 Di., 1 R. Total 17.

Education.

For Undergraduates and Graduates : —

1. Mr. A. O. NORTON. — History of Educational Theories and Practices.

7 Gr., 2 Se., 4 Ju., 7 So., 2 Sp., 4 Sc. Total 26.

2a¹/₂. Mr. A. O. NORTON. — Introduction to the Study of Education. Discussion of Educational Principles.

8 Gr., 8 Se., 8 Ju., 9 So., 2 Sp., 9 Sc. Total 44.

Primarily for Graduates : —

123. Mr. ALDRICH and Mr. A. O. NORTON. — Organization and Management of Public Schools and Academies. Supervision, Courses of Study, and Teaching.

8 Gr., 7 Se., 2 Ju., 1 So., 1 Sp., 8 Sc., 6 R. Total 33.

SEMINARY COURSE.

20c. Mr. A. O. NORTON. — Seminary. Contemporary Problems in Education.

7 Gr. Total 7.

The Fine Arts.

Primarily for Undergraduates : —

1. Professor CHARLES H. MOORE, assisted by Mr. MOWER. — Principles of Delineation, Color, and Chiaroscuro, with some consideration of historic forms of Art, and the conditions which have influenced them.

1 Gr., 7 Ju., 7 So., 17 Fr., 2 Sp., 16 Sc. Total 50.

2. Professor CHARLES H. MOORE. — Principles of Design in Architecture, Sculpture, and Painting, as exemplified in the Arts of past ages.

2 Gr., 8 Ju., 3 So., 3 Sc. Total 16.

For Undergraduates and Graduates :—

3. Dr. CHASE. — History of Ancient Art. Architecture, Sculpture, and Painting in Egypt, Assyria, and Greece, with some account of the lesser arts.
1 Gr., 13 Se., 33 Ju., 37 So., 5 Fr., 9 Sc. Total 98.
4. Professor CHARLES H. MOORE, assisted by Mr. POPE. — The Fine Arts of the Middle Ages and the Renaissance.
2 Gr., 14 Se., 22 Ju., 9 So., 1 Fr., 3 Sp., 5 Sc., 3 Di. Total 59.

Primarily for Graduates :—

- 20b. Professor CHARLES H. MOORE. — History and Principles of Engraving.
3 Se., 1 Ju. Total 4.

Architecture.

The courses in Architecture are intended primarily for students in the Lawrence Scientific School, and only Courses 1a, 1b, 1c, 7a, 20b (and 2a when it is taken in connection with 1a) may be counted towards the degree of A.B.

- 1a. Professor H. L. WARREN, assisted by Mr. SWAN. — Technical and Historical Development of the Ancient Styles, with especial reference to Classic Architecture.
3 Gr., 2 Se., 6 Ju., 3 So., 1 Fr., 18 Sc. Total 33.
- 1b. Professor H. L. WARREN, assisted by Mr. MOWLL. — Technical and Historical Development of the Mediaeval Styles of Architecture.
2 Gr., 3 Se., 5 Ju., 2 So., 24 Sc. Total 36.
- 2a. Professor H. L. WARREN, and Mr. SWAN. — Elementary Architectural Drawing. Elements of Architectural Form. The Orders.
2 Gr., 2 Se., 5 Ju., 3 So., 16 Sc. Total 28.
- 2b. Mr. MOWLL. — Descriptive Geometry. Shades, Shadows, Perspective, and Stereotomy.
1 Gr., 3 Ju., 1 So., 15 Sc. Total 20.
- 3a. Mr. MOWLL and Mr. SWAN. — Freehand Drawing.
3 Gr., 4 Se., 2 Ju., 1 So., 14 Sc. Total 24.
- 3b. Mr. H. B. WARREN, assisted by Mr. SWAN. — Freehand Drawing (second course).
3 Gr., 1 Ju., 16 Sc. Total 20.
- 3c. Mr. H. B. WARREN, assisted by Mr. SWAN. — Freehand Drawing (third course).
5 Sc. Total 5.
- 4a. Professor H. L. WARREN and Mr. MOWLL. — Elementary Architectural Design.
4 Gr., 3 Se., 5 Ju., 1 So., 15 Sc. Total 28.
- 4b. Professor H. L. WARREN and Mr. MOWLL. — Architectural Design (second course).
1 Gr., 11 Sc. Total 12.
- 4c. Professor H. L. WARREN and Mr. MOWLL. — Architectural Design (third course).
5 Sc. Total 5.
- 5¹/₂f. Mr. SWAN. — Building Construction: Carpentry. 2 Gr., 16 Sc. Total 18.
- 6¹/₂f. Mr. GARBUTT. — Modelling.
6 Sc. Total 6.
- 7a¹/₂f. Dr. ROSS. — Theory of Pure Design, Balance, Rhythm, and Harmony.
4 Gr., 5 Se., 10 Ju., 6 So., 3 Fr., 2 Sp., 19 Sc. Total 49.

Primarily for Graduates :—

- 3d. Mr. H. B. WARREN. — Freehand Drawing (fourth course). 2 Gr. Total 2
- 4d. Professor H. L. WARREN and Mr. MOWLL. — Architectural Design (advanced course).
2 Gr. Total 2

COURSES OF RESEARCH.

30a. Professor H. L. WARREN. — Competent Graduate Students who satisfied the instructor of their fitness to pursue advanced work were directed in the study of special periods in the history of architecture.

2 Gr., 1 Se. Total 3.

30b³hf. Dr. ROSS. — Advanced Practice in Pure Design or in Representation.

2 Gr., 4 Se., 1 So. Total 7.

Landscape Architecture.

For Undergraduates and Graduates: —

0¹hf. Mr. SHURTLEFF. — Details of Construction. 3 Gr., 5 Se. Total 8.

1. Professor OLMSTED and Mr. PRAY, with five lectures by Professors GOODALE and SHALEB. — Principles of Landscape Architecture.

5 Gr., 4 Se., 9 Ju., 7 So., 4 Fr., 1 Sp., 11 Se., 2 Bu. Total 48.

2. Professor OLMSTED and Mr. PRAY. — Practice in Design (first course).

4 Gr., 2 Se. Total 6.

3. Professor OLMSTED and Mr. SHURTLEFF. — Practice in Design (second course).

1 Gr., 2 Se. Total 3.

Primarily for Graduates: —

20. Graduate Students and others suitably prepared were allowed to pursue special advanced work under the direction of Professor OLMSTED.

1 Gr. Total 1.

Music.

For Undergraduates and Graduates: —

1. Asst. Professor SPALDING. — Harmony.

1 Gr., 2 Se., 6 Ju., 7 So., 16 Fr., 5 Sp., 1 Se. Total 38.

1a. Mr. CONVERSE. — Harmony (advanced course).

2 Sp. Total 2.

2. Asst. Professor SPALDING. — Counterpoint.

1 Gr., 1 Se., 3 Ju., 10 So., 3 Sp., 1 Se. Total 19.

2a⁴hf. Asst. Professor SPALDING. — Vocal Counterpoint, with analysis of choral works of the great composers.

2 Gr., 4 Ju., 3 So., 1 Sp. Total 10.

3. Professor PAINE. — History of Music.

12 Se., 35 Ju., 37 So., 5 Fr., 6 Sp., 3 Se. Total 98.

4. Asst. Professor SPALDING. — Musical Form, with analysis of the works of the great composers.

4 Se., 6 Ju., 11 So., 3 Sp. Total 24.

Primarily for Graduates: —

15. Mr. CONVERSE. — Canon and Fugue. Free Thematic Music.

2 Se., 5 Ju. Total 7.

16. Professor PAINE. — Advanced Fugue and Free Composition.

1 Se., 1 Sp. Total 2.

17. Professor PAINE and Asst. Professor SPALDING. — Instrumentation.

2 Se., 3 Ju., 1 So., 3 R. Total 9.

Mathematics.*Primarily for Undergraduates : —*

F. Asst. Professor BOUTON and Mr. WHITTEMORE. — Trigonometry and Plane Analytic Geometry. 3 Se., 6 Ju., 18 So., 67 Fr., 4 Sp., 1 Sc. Total 99.

C. Professor BYERLY. — Plane and Solid Analytic Geometry (extended course). 4 So., 25 Fr., 3 Sp. Total 32.

D²hf. Dr. COOLIDGE. — Algebra.

2 Se., 4 Ju., 17 So., 37 Fr., 1 Sp., 1 Sc. Total 62.

E¹hf. Asst. Professor BOUTON, Dr. COOLIDGE, and Mr. WHITTEMORE. — Solid Geometry.

6 Se., 7 Ju., 15 So., 28 Fr., 4 Sp., 27 Sc., 1 Me., 1 Law. Total 89.

G²hf. Asst. Professor BOUTON. — Descriptive Geometry.

1 Gr., 2 Se., 3 Ju., 4 So., 3 Fr. Total 18.

2. *Professor BYERLY.* — Differential and Integral Calculus (first course).

1 Gr., 1 Se., 9 Ju., 28 So., 2 Fr., 2 Sp., 3 Sc. Total 46.

4. *Professor OSGOOD.* — The Elements of Mechanics.

4 Gr., 3 Se., 5 Ju., 7 So., 2 Sp., 2 Sc. Total 28.

For Undergraduates and Graduates : —

3. *Professor BÔCHER.* — Introduction to Modern Geometry and Modern Algebra.

1 Gr., 5 Ju., 4 So., 1 Sp. Total 11.

5. *Professor OSGOOD.* — Differential and Integral Calculus (second course).

1 Gr., 1 Se., 6 Ju., 4 So., 1 Sp. Total 18.

12 ¹/_{hf}. *Professor OSGOOD.* — Infinite Series and Products.

3 Gr., 1 Se. Total 4.

14 ²/_{hf}. *Professor OSGOOD.* — Algebra. Galois's Theory of Equations.

3 Gr., 1 R. Total 4.

8. *Professor J. M. PEIRCE.* — Dynamics of a Rigid Body.

3 Gr., 1 Ju. Total 4.

Primarily for Graduates : —

†13. *Professor BÔCHER.* — The Theory of Functions (introductory course).

8 Gr., 2 Se., 1 Sc., 1 R. Total 12.

†7a. *Professor J. M. PEIRCE.* — Triangular Coördinates of Points and Lines in a Plane. The General Theory of Algebraic Plane Curves. Plane Curves of the Third Degree in Point and Line Coördinates. 2 Gr., 2 Se. Total 4.

†22. *Mr. WHITTEMORE.* — Introduction to the Differential Geometry of Curves and Surfaces. 3 Gr., 1 R. Total 4.

†9b. *Professor J. M. PEIRCE.* — The Application of Quaternions to the Theory of Curves and Surfaces. 1 Se. (as first half-year only). Total 1.

†10. *Professors BYERLY and B. O. PEIRCE.* — Trigonometric Series. Introduction to Spherical Harmonics. The Potential Function.

4 Gr., 2 Se., 1 Ju. Total 7.

†2b ¹/_{hf}. *Mr. WHITTEMORE.* — The Theory of the Form and the Rotation of the Planets. 1 Se. Total 1.

15. Asst. Professor BOUTON. — Differential Equations, with an introduction to Lie's Theory of Continuous Groups. 8 Gr., 1 R. Total 9.
30. Professor BÔCHER. — Linear Differential Equations, Total and Partial. 4 Gr., 2 R. Total 6.
- 27½. Dr. E. V. HUNTINGTON. — The Fundamental Concepts of Mathematics. 1 So., 1 Sp., 1 Sc., 1 R. Total 4.

COURSES OF READING AND RESEARCH.

- 30f. Professor BÔCHER. — Topics in the Theory of Differential Equations. 1 R. Total 1.
- 30g. Asst. Professor BOUTON. — Topics in the Theory of Continuous Groups. 1 R. Total 1.
- 30i. Dr. COOLIDGE. — Topics in Higher Geometry. 1 Gr. Total 1.

Astronomy.

Primarily for Undergraduates: —

- 1½. Professor WILLSON and Mr. BRENKE. — Descriptive Astronomy. 19 Se., 34 Ju., 47 So., 6 Fr., 5 Sp., 19 Sc. Total 130.
- 2½. Professor WILLSON and Mr. BRENKE. — Practical Astronomy. Application of Astronomy to Navigation and Exploration. 3 Se., 3 Ju., 7 So., 1 Fr., 6 Sc. Total 20.

For Undergraduates and Graduates: —

3. Professor WILLSON. — Practical Astronomy. 2 Gr., 1 Se., 1 So. Total 4.

Primarily for Graduates: —

5. Professor WILLSON. — Practical Astronomy. Instruments of the fixed observatory. Meridian Circle; almucantar; equatorial instrument; absolute determinations. 1 Se. Total 1.

Physics.

Primarily for Undergraduates: —

- B. Professor HALL, Dr. G. W. PIERCE, and Mr. J. M. ADAMS. — Experimental Physics (elementary course). 1 Gr., 1 Se., 6 Ju., 20 So., 39 Fr., 13 Sp., 32 Sc. Total 112.
- C. Asst. Professor SABINE and Dr. H. W. MORSE. — Experimental Physics. Mechanics, Sound, Light, Magnetism, and Electricity. 2 Gr., 6 Se., 23 Ju., 36 So., 48 Fr., 4 Sp., 79 Sc. Total 198.
1. Professor HALL and Mr. SERVISS. — General Descriptive Physics. 1 Gr., 2 Se., 6 Ju., 5 So., 7 Fr., 2 Sp., 13 Sc. Total 36.
- 2½. Asst. Professor SABINE. — The Theory of Light in its application to familiar optical phenomena and to optical instruments. 1 Gr., 2 Se., 1 So., 3 Sc. Total 7.
- 11½. Dr. H. W. MORSE. — The Theory of Primary and Secondary Batteries. 1 Se., 4 Ju., 2 So., 1 Sc. Total 8.

For Undergraduates and Graduates: —

3. Professor B. O. PEIRCE and Dr. AYRES. — Electrostatics, Electrokinematics, and parts of Electromagnetism. 1 Gr., 4 Ju., 6 So., 1 Sp., 18 Sc. Total 30.

12 ¹/_{hf}. Dr. T. LYMAN. — Radioactivity and Electric Conduction in Gases with special reference to the Theory of Ions. 2 Gr., 2 Ju., 2 Sc. Total 6.

4. Professor TROWBRIDGE, Dr. G. W. PIERCE, and Dr. T. LYMAN. — Magnetism, Electromagnetism, and Electrodynamics. 3 Gr., 3 Ju., 10 Sc. Total 16.

5. Asst. Professor SABINE. — Light. 2 Gr., 1 Se., 1 Ju., 1 Sp. Total 5.

6a ¹/_{hf}. Professor HALL. — Elements of Thermodynamics. 3 Gr., 2 Se., 1 Ju., 1 So., 1 Sp. Total 8.

6b ¹/_{hf}. Professor HALL. — Modern Developments and Applications of Thermodynamics. 2 Gr., 1 Se., 1 Ju. Total 4.

14 ¹/_{hf}. Dr. H. W. MORSE. — The Theory of Photography. 5 Se., 1 So., 3 Sc. Total 9.

15 ¹/_{hf}. Dr. G. W. PIERCE. — Radiation. 3 Gr., 1 Se., 1 Ju. Total 5.

Primarily for Graduates: —

†7 ¹/_{hf}. Professor HALL. — The Theory of Probability and the Kinetic Theory of Gases. 4 Gr., 1 Se. Total 5.

†9. Professor B. O. PEIRCE. — The Mathematical Theory of Electricity and Magnetism. 7 Gr., 1 Ju. Total 8.

COURSES OF RESEARCH.

20a. Professor TROWBRIDGE. — Light and Electricity. 2 Gr. Total 2.

20e. Professor HALL. — Heat and Electricity. 3 Gr. Total 3.

20d. Asst. Professor SABINE. — Light and Heat. 2 Gr. Total 2.

20e. Dr. G. W. PIERCE. — Radiation and Electromagnetic Waves. 1 Gr. Total 1.

20f. Dr. H. W. MORSE. — Molecular Physics. 1 Gr. Total 1.

Chemistry.

Primarily for Undergraduates: —

1. Professors C. L. JACKSON and SANGER, Mr. R. F. JACKSON, and seven assistants. — Descriptive Inorganic Chemistry.

5 Gr., 4 Se., 35 Ju., 67 So., 105 Fr., 17 Sp., 98 Sc., 1 Bu. Total 332.

2 ¹/_{hf}. Dr. TORREY. — Organic Chemistry (elementary course).

1 Gr., 13 Se., 20 Ju., 28 So., 1 Fr., 1 Sp., 24 Sc. Total 88.

3. Professor SANGER and Dr. TORREY, Dr. R. C. WELLS, Mr. LANGMAID, and four assistants. — Qualitative Analysis.

6 Gr., 13 Se., 21 Ju., 35 So., 4 Fr., 2 Sp., 35 Sc. Total 116.

4. Dr. BAXTER and Mr. FREVERT. — Quantitative Analysis, gravimetric and volumetric.

2 Gr., 3 Se., 9 Ju., 3 So., 14 Sc. Total 31.

For Undergraduates and Graduates: —

8 ¹/_{hf}. Professor RICHARDS and Dr. R. C. WELLS. — The Historical Development of Chemical Theory.

5 Gr., 3 Se., 15 Ju., 18 So., 1 Sp., 21 Sc. Total 63.

11. Dr. FRINGSHEIM. — Industrial Chemistry.

8 Gr., 5 Se., 6 Ju., 12 Sc. Total 31.

9 ¹/₂ Dr. BAXTER and Mr. GRIFFIN. — Advanced Quantitative Analysis.

6 Gr., 6 Se., 7 Ju., 1 Fr., 7 Sc. Total 27.

10 ¹/₂ Dr. BAXTER and Mr. GRIFFIN. — Gas Analysis.

6 Gr., 3 Se., 5 Ju., 1 Fr., 5 Sc. Total 20.

5. Dr. TORREY. — The Carbon Compounds.

9 Gr., 8 Se., 12 Ju., 1 So., 12 Sc. Total 42.

5a ¹/₂ Dr. TORREY and Mr. RUSSE. — The Carbon Compounds. Laboratory work.

7 Gr., 5 Se., 8 Ju., 1 So., 8 Sc. Total 29.

15 ¹/₂ Dr. HENDERSON. — General Biological Chemistry.

8 Gr., 6 Se., 11 Ju., 2 So., 7 Sc. Total 34.

Primarily for Graduates: —

6. Professor RICHARDS and Mr. FORBES. — Physical Chemistry.

9 Gr., 6 Se., 1 Ju., 1 Sc. Total 17.

12 ¹/₂ Dr. BAXTER. — Photochemistry, including the use of Optical Instruments in Chemistry.

4 Gr., 1 Ju., 2 Sc. Total 7.

7 ¹/₂ Dr. R. C. WELLS. — Electrochemistry.

8 Gr., 3 Se., 1 Ju., 1 Sc. Total 13.

13 ¹/₂ Dr. R. C. WELLS. — Experimental Electrochemistry.

2 Gr., 1 Se., 1 Sc. Total 4.

COURSES OF RESEARCH.

20b. Professor C. L. JACKSON. — Organic Chemistry. 4 Gr. Total 4.

20c. Dr. TORREY. — Organic Chemistry. 3 Gr. Total 3.

20d. Professor RICHARDS. — Physical Chemistry. 7 Gr. Total 7.

20e. Professor SANGER. — Applied Chemistry. 1 Gr. Total 1.

20f. Dr. BAXTER. — Inorganic Chemistry. 1 Gr., 1 Se., 2 Sc. Total 4.

Engineering.

The courses in Engineering are intended primarily for students in the Lawrence Scientific School, but many of them may be counted towards the degree of A.B. The Catalogue shows what courses may be so counted.

1a ¹/₂ Asst. Professor LOVE, Mr. FRIZELL, Dr. HUNTINGTON, and Mr. A. E. NORTON. — Algebra. 3 Ju., 4 So., 6 Fr., 108 Sc. Total 121.1b ¹/₂ Asst. Professor LOVE, Mr. FRIZELL, and Dr. HUNTINGTON. — Trigonometry. 3 Se., 11 Ju., 29 So., 17 Fr., 1 Sp., 100 Sc. Total 161.1d ¹/₂ Asst. Professor LOVE, Mr. FRIZELL, Dr. HUNTINGTON, and Mr. A. E. NORTON. — Analytic Geometry. 3 Ju., 5 So., 5 Fr., 114 Sc. Total 127.

1c. Asst. Professor LOVE, Mr. FRIZELL, Dr. HUNTINGTON, and Mr. A. E. NORTON. — Differential and Integral Calculus.

1 Gr., 2 Se., 14 Ju., 3 So., 1 Sp., 69 Sc. Total 90.

3a. Asst. Professor KENNEDY, Messrs. A. E. NORTON, L. ROSS, and ALDEN. — Mechanical Drawing.

2 Gr., 4 Se., 9 Ju., 17 So., 22 Fr., 2 Sp., 89 Sc. Total 145.

- 3b ²/_{hf}. Mr. MOYER. — Descriptive Geometry.
1 Gr., 3 Se., 11 Ju., 4 So., 1 Fr., 51 Sc. Total 71.
- 3d ¹/_{hf}. Asst. Professor KENNEDY and Mr. A. E. NORTON. — Mechanism. Study of Gearing and Mechanical Movements.
2 Gr., 3 Se., 12 Ju., 3 So., 1 Fr., 62 Sc. Total 83.
- 4a. Asst. Professor HUGHES and assistants. — Plane Surveying. (See page 95.)
3 Gr., 1 Se., 20 Ju., 27 So., 11 Fr., 44 Sc., 1 Law. Total 107.
- 4c. Asst. Professor HUGHES and assistants. — Geodetic Surveying. (See page 95.)
10 Ju., 21 So., 6 Fr., 37 Sc., 1 Law. Total 75.
- 4d. Asst. Professor HUGHES and assistants. — Railroad Surveying. (See page 95.)
3 Gr., 11 Ju., 21 So., 6 Fr., 40 Sc., 1 Law. Total 82.
- 10a. Messrs. WHITING and MARKHAM. — Chipping, Filing, and Fitting. (See page 95.)
1 Gr., 1 Se., 4 Ju., 1 So., 1 Fr., 28 Sc. Total 36.
- 10b. Messrs. WHITING and MARKHAM. — Blacksmithing. (See page 95.)
1 Gr., 1 Se., 4 Ju., 1 So., 1 Fr., 27 Sc. Total 35.
- 10c. Messrs. WHITING and MARKHAM. — Pattern-making and Foundry Practice. (See page 95.)
1 Gr., 1 Se., 4 Ju., 1 So., 1 Fr., 26 Sc. Total 34.
- 10e. Messrs. WHITING and MARKHAM. — Machine Shop Practice. (See page 95.)
1 Gr., 1 Se., 4 Ju., 1 So., 1 Fr., 27 Sc. Total 35.
- For Undergraduates and Graduates : —*
- 4e ²/_{hf}. Professor OLMSTED, Asst. Professor HUGHES, and Mr. PRAY. — Road Making and Maintenance.
4 Gr., 19 Sc. Total 23.
- 4f ²/_{hf}. Asst. Professor HUGHES. — Railroad Engineering (second course). Problems in railroad construction and maintenance.
1 Se., 14 Sc. Total 15.
- 5b ¹/_{hf}. Asst. Professor JOHNSON and Mr. MOYER. — Elementary Statics. Graphic and Algebraic Methods.
2 Gr., 7 Se., 20 Ju., 8 So., 88 Sc. Total 125.
- 5c ²/_{hf}. Asst. Professor JOHNSON and Mr. MOYER. — Elementary Kinematics and Kinetics and problems in Statics. 3 Se., 18 Ju., 3 So., 56 Sc. Total 75.
- 5d ²/_{hf}. Mr. MOYER. — Resistance of Materials (introductory course). Elementary Structural Design.
1 Gr., 1 Se., 3 Ju., 1 Fr., 7 Sc. Total 13.
- 5a. Professor HOLLIS and Mr. L. ROSS. — Applied Mechanics.
2 Gr., 4 Se., 4 Ju., 57 Sc. Total 67.
- 5c ¹/_{hf}. Professor HOLLIS. — Resistance of Materials (second course).
24 Sc. Total 24.
- 6a ²/_{hf}. Asst. Professor HUGHES. — Hydraulics and Hydraulic Motors.
4 Se., 4 Ju., 46 Sc. Total 54.
- 6c ¹/_{hf}. Asst. Professor HUGHES. — Water Supply and Sanitary Engineering.
2 Gr., 17 Sc. Total 19.
- 6d ¹/_{hf}. Asst. Professor HUGHES. — Canals, Rivers, and Harbors. Irrigation.
16 Sc. Total 16.

- 7a. Asst. Professor JOHNSON. — Bridges and Buildings. Design of Framed Structures. 16 Sc. Total 16.
- 8a ¹/₂f. Asst. Professor JOHNSON. — Building Stones, Masonry and Foundations. 1 Gr., 1 Se., 1 Ju., 35 Sc. Total 38.
- 11a ¹/₂f. Asst. Professor MARKS, Messrs. MARKHAM and TYNG. — Steam Machinery (introductory course). 2 Gr., 5 Se., 16 Ju., 11 So., 1 Fr., 84 Sc. Total 119.
- 12b ¹/₂f. Asst. Professor MARKS and Mr. TYNG. — Elements of Thermodynamics. Theory of Heat Engines. 2 Gr., 4 Se., 4 Ju., 53 Sc. Total 63.
- 12a ¹/₂f. Asst. Professor MARKS. — Efficiency and Economics of Heat Engines. 8 Sc. Total 8.
- 12c ¹/₂f. Mr. BURKE. — Heating and Ventilation. 15 Sc. Total 15.
- 13a. Asst. Professor MARKS, Messrs. MOYER and TYNG. — Engineering Laboratory. Introductory course in experimental methods. 1 Gr., 5 Se., 4 Ju., 51 Sc. Total 61.
- 13b. Asst. Professor MARKS and Mr. MOYER. — Engineering Laboratory (second course). 6 Sc. Total 6.
- 14a ¹/₂f. Asst. Professor KENNEDY. — Machine Design (introductory course). 1 Gr., 3 Se., 3 Ju., 20 Sc. Total 27.
- 14b. Professor HOLLIS. — Machine Design (second course). 7 Sc. Total 7.
- 16a. Professor KENNELLY, Messrs. WHITING and ANDEREGG. — Generation, Transmission, and Utilization of Electrical Energy (elementary course). 1 Gr., 3 Se., 3 Ju., 25 Sc. Total 32.
- 16c. Professor KENNELLY. — Direct Current Dynamo-Electric Machinery. 1 Se., 2 Ju., 19 Sc. Total 22.
- 16e. Professor KENNELLY and Mr. ANDEREGG. — Alternating Currents and Alternating Current Machinery. 1 Se., 17 Sc. Total 18.
- 16d. Mr. ANDEREGG. — Dynamo Design. 15 Sc. Total 15.
- 16f. Mr. WHITING. — Electrical Engineering Laboratory. 2 Gr., 1 Se., 20 Sc. Total 23.
- 17a ¹/₂f. Professor KENNELLY. — Electric Transmission and Distribution of Power. 1 Se., 1 Ju., 18 Sc. Total 20.
- 17b ¹/₂f. Professor KENNELLY. — Telegraphy and Telephony. 1 Gr., 1 Se., 1 Ju., 19 Sc. Total 22.
21. Professor HOLLIS. — Conference on Engineering Subjects. 33 Sc. Total 33.
- 22¹. Asst. Professor WYMAN. — Contracts and Specifications. The Principles of Common Law as applied to Contracts. 3 Se., 2 Ju., 1 So., 33 Sc. Total 39.

Forestry.*For Undergraduates and Graduates :—*

- 1 ¹/_{hf}. Mr. FISHER. — Silviculture. 4 Gr., 1 Se., 1 Ju., 1 So., 7 Sc. Total 14.
 2 ¹/_{hf}. Mr. CARTER. — Forest Measurements. 1 Se., 1 So., 3 Sc. Total 5.
 3. Mr. JACK. — Forest Botany. 3 Gr., 1 Se., 2 Ju., 2 So., 3 Sc. Total 11.
 4 ¹/_{hf}. Mr. FISHER. — Forest Protection. 3 Gr., 1 Se., 3 Ju., 1 So., 5 Sc. Total 13.
 5 ¹/_{hf}. Mr. CARTER. — Forest History. 1 Gr., 6 Sc. Total 7.
 6. Messrs. CARTER and FISHER. — Lumbering. 1 Gr., 2 Sc. Total 3.
 7. Messrs. FISHER and CARTER. — Forest Management. 1 Gr., 1 Sc. Total 2.

Botany.*Primarily for Undergraduates :—*

- 1 ¹/_{hf}. Professor GOODALE and assistants. — Botany (introductory course). 3 Gr., 21 Se., 26 Ju., 48 So., 70 Fr., 7 Sp., 43 Sc., 1 Bu. Total 219.
 2 ¹/_{hf}. Professor THAXTER and two assistants. — Morphology of Plants. 5 Gr., 7 Se., 5 Ju., 13 So., 1 Sp., 11 Sc. Total 43.

For Undergraduates and Graduates :—

- 3a ¹/_{hf}. Asst. Professor JEFFREY and an assistant. — Morphology, Histology, and Cytology of Flowering Plants. 1 Gr., 1 So., 4 Sc. Total 6.
 3b ¹/_{hf}. Asst. Professor JEFFREY and an assistant. — Ecology and Physiology of Flowering Plants. 1 Gr., 1 Se., 1 Ju., 4 Sc., 1 Bu. Total 8.
 6 ¹/_{hf}. Professor THAXTER and an assistant. — The Bacteria, Mycetozoa, and Higher Fungi. 2 Gr., 3 Se., 7 Ju., 2 So., 7 Sc. Total 21.
 7. Mr. FERNALD. — Classification of Flowering Plants, with special reference to the Flora of New England and the Maritime Provinces. 1 Se., 1 Fr. Total 2.
 9 ¹/_{hf}. Asst. Professor JEFFREY and an assistant. — The Anatomy, Development, and Phylogeny of the Siphonogama (Higher Gymnosperms and the Angiosperms). 2 Gr., 2 Se., 1 Ju., 5 Sc. Total 10.
 11 ¹/_{hf}. Dr. GREENMAN. — Botanical Geography. 2 Se., 1 Ju., 2 So., 2 Sc. Total 7.

*Primarily for Graduates :—***COURSES OF RESEARCH.**

- 20a. Professor GOODALE and Asst. Professor JEFFREY. — Experimental Vegetable Physiology. Economic Botany, with special reference to Tropical Plants. Structure and Development of Vascular Plants. 1 Gr. Total 1.
 20b. Professors FARLOW and THAXTER. — Structure and Development of Cryptogams. 2 Gr. Total 2.

Zoölogy.*Primarily for Undergraduates :—*

- 1 ¹/_{hf}. Asst. Professor G. H. PARKER, Mr. L. J. COLE, and other assistants. — Zoölogy (introductory course). 4 Gr., 31 Se., 23 Ju., 41 So., 44 Fr., 8 Sp., 32 Sc., 1 Bu. Total 184.

1sthf. Asst. Professor CASTLE, Mr. A. D. HOWARD, and other assistants.—
Morphology of Animals.

2 Gr., 2 Se., 7 Ju., 14 So., 1 Fr., 18 Sc., 1 Bu. Total 40.

For Undergraduates and Graduates:—

3. Dr. H. W. RAND and Mr. I. A. FIELD.—Comparative Anatomy of Vertebrates.

4 Gr., 4 Se., 3 Ju., 2 So., 5 Sc. Total 18.

4thhf. Professor MARK and Dr. H. W. RAND.—Microscopical Anatomy.

4 Gr., 1 Se., 4 Ju., 1 So., 3 Sc. Total 18.

5thhf. Professor MARK and Dr. H. W. RAND.—Embryology of Vertebrates.

2 Gr., 1 Se., 4 Ju., 1 So., 3 Sc. Total 11.

8thhf. Asst. Professor R. T. JACKSON.—Fossil Vertebrates.

1 Gr., 1 Ju. Total 2.

9thhf. Asst. Professor R. T. JACKSON.—Fossil Invertebrates.

3 Gr., 1 Se., 1 Ju., 2 Sc. Total 7.

10. Asst. Professor CASTLE.—Experimental Morphology. 9 Gr., 2 Sc. Total 11.

13thhf. Asst. Professor G. H. PARKER.—Comparative Histology, with special reference to Nervous Tissues.

5 Gr., 1 Se., 1 Ju., 2 Sc. Total 9.

16thhf. Asst. Professor G. H. PARKER.—The Structure and Functions of the Nervous System and its Relation to Animal Habits. Central Nervous Organs and Terminal Organs of Efferent Nerves. 8 Gr., 3 Sc. Total 11.

Primarily for Graduates:—

COURSE OF RESEARCH.

20. Professor MARK, Asst. Professors R. T. JACKSON, G. H. PARKER, and CASTLE.—Zoological Investigations. 11 Gr., 1 Se., 3 Sc. Total 15.

Geology.

GEOLOGY AND GEOGRAPHY.

Primarily for Undergraduates:—

A^{1st}hf. Dr. P. S. SMITH, assisted by Mr. SIMPSON.—Physiography of the Lands.

3 Gr., 5 Se., 10 Ju., 28 So., 27 Fr., 5 Sp., 21 Sc., 3 Bu. Total 102.

B^{1st}hf. Asst. Professor WARD, assisted by Mr. SIMPSON.—Meteorology (elementary course).

2 Se., 5 Ju., 18 So., 7 Fr., 6 Sp., 23 Sc., 2 Bu. Total 63.

4thhf. Professor SHALEH, assisted by Dr. P. S. SMITH.—Elementary Geology.

1 Gr., 2 Ju., 6 So., 4 Fr., 6 Sp., 64 Sc., 2 Bu. Total 85.

5thhf. Asst. Professor J. B. WOODWORTH, Dr. P. S. SMITH, and assistants.—Elementary Field and Laboratory Geology.

4 Gr., 4 Se., 5 Ju., 18 So., 18 Fr., 3 Sp., 55 Sc., 1 Bu. Total 108.

1sthf. Asst. Professor WARD.—Meteorology (second course).

2 Ju., 3 So., 2 Fr., 3 Sc. Total 10.

For Undergraduates and Graduates:—

6thhf. Professor DAVIS.—Physiography of the United States.

4 Gr., 4 Ju., 2 So., 2 Fr., 9 Sc. Total 21.

8. Asst. Professor J. B. WOODWORTH. — General Geology.
1 Gr., 6 Ju., 1 So., 13 Sc. Total 21.
10. Professor H. L. SMYTH, assisted by Dr. BELL. — Mining Geology.
5 Gr., 2 Ju., 1 So., 17 Sc. Total 25.
- 13 *hf.* Mr. MATTHES. — Topographic Field Methods for Geologists.
2 Gr., 1 Sc. Total 3.
22. Asst. Professor JAGGAR, assisted by Mr. MANSFIELD. — Advanced Geological Field Work. Areal Geology in the vicinity of Boston.
4 Gr., 5 Sc. Total 9.
- 12 *hf.* Asst. Professor J. B. WOODWORTH. — The Carboniferous Period, with special reference to its physical history. 1 So. Total 1.
- 2 *hf.* Asst. Professor WARD. — Climatology of the United States.
1 Gr., 1 Se., 2 Ju., 3 So., 1 Sc. Total 8.
- 19 *hf.* Asst. Professor WARD. — General Climatology.
3 Gr., 2 Se., 2 Ju., 2 So., 9 Sc. Total 18.
- 14 *hf.* Professor SHALER, assisted by Mr. STARRATT. — General Palaeontology.
2 Gr., 10 Se., 6 Ju., 8 So., 5 Fr., 1 Sp., 12 Sc. Total 44.
11. Asst. Professor R. T. JACKSON, assisted by Mr. STARRATT. — Palaeontology.
2 Gr., 9 Sc. Total 11.
15. Asst. Professor R. T. JACKSON. Occasional Lectures by Professor SHALER. — Historical Geology. 1 Gr. Total 1.

Primarily for Graduates: —

COURSES OF RESEARCH.

- 23 *hf.* Professors SHALER, DAVIS, WOLFF and H. L. SMYTH, Asst. Professors J. B. WOODWORTH and JAGGAR. — Geological Investigation in the Field and Laboratory. 1 So. Total 1.
- †20a. Professor DAVIS. — Physiography (advanced course).
3 Gr., 1 Sc. Total 4.
- 20d. Professor SHALER and Asst. Professor R. T. JACKSON. — Advanced Palaeontology. 1 Gr. Total 1.

MINERALOGY AND PETROGRAPHY.

Primarily for Undergraduates: —

2. Asst. Professor PALACHE, assisted by Mr. RICHARDS. — Mineralogy (including Crystallography, Physical and Chemical Mineralogy, and Descriptive Mineralogy). 2 Gr., 5 Ju., 6 So., 1 Fr., 30 Sc. Total 44.
- 4 *hf.* Professor WOLFF. — Elementary Petrography. 5 Gr., 2 Sc. Total 7.

For Undergraduates and Graduates: —

- 12 *hf.* Professor WOLFF. — Advanced Petrography. 1 Gr., 2 Sc. Total 3.

MINING AND METALLURGY.

Primarily for Undergraduates: —

- 1 *hf.* Professor H. L. SMYTH and Asst. Professor RAYMER, assisted by Dr. BELL. — Elements of Mining. Prospecting, exploring, development and the principles of exploitation. 1 Gr., 3 Ju., 1 So., 20 Sc. Total 25.

9thhf. Asst. Professor SAUVEUR. — General Metallurgy.

1 Gr., 3 Se., 5 Ju., 1 Fr., 22 Sc. Total 32.

10thhf. Asst. Professor RAYMER, assisted by Mr. McINTOSH. — Fire Assaying.

3 Gr., 22 Sc. Total 25.

For Undergraduates and Graduates: —

2ndhf. Asst. Professor SAUVEUR, assisted by Mr. BOYNTON. — Metallurgy of iron and steel.

4 Se., 3 Ju., 50 Sc. Total 57.

3rdhf. Professor PETERS, assisted by Dr. BELL. — Metallurgy of copper, lead, zinc, and the minor metals, and of the precious metals in connection with copper and lead.

3 Gr., 2 Se., 22 Sc. Total 27.

4. Asst. Professor RAYMER, assisted by Mr. McINTOSH. — Ore-dressing, Concentration, and Milling.

1 Se., 14 Sc. Total 15.

5thhf. Professor H. L. SMYTH. — Metal and coal mining; exploitation.

1 Se., 12 Sc. Total 13.

11thhf. Asst. Professor RAYMER. — Mining Plant.

1 Se., 14 Sc. Total 15.

6thhf. Mr. C. H. WHITE, assisted by Mr. BOYLSTON. — Metallurgical Chemistry.

2 Gr., 18 Sc. Total 20.

7. Mr. C. H. WHITE. — Metallurgical Chemistry (advanced course).

1 Gr., 5 Sc. Total 6.

8thhf. Mr. C. H. WHITE. — Leaching Processes for Gold and Silver Ores.

4 Sc. Total 4.

12. Professor H. L. SMYTH. — Mining. The study of mining operations.

8 Sc. Total 8.

14thhf. Asst. Professor SAUVEUR, assisted by Mr. BOYNTON. — Metallography.

2 Gr. Total 2.

15thhf. Professor PETERS. — Metallurgy of Zinc, Nickel, Tin, Mercury, and the Minor Metals.

1 Gr., 7 Sc. Total 8.

Primarily for Graduates: —

COURSES OF RESEARCH.

20. Asst. Professor SAUVEUR. — Metallography and the Physics of Metals.

2 Gr., 2 Sc. Total 4.

22. Asst. Professor RAYMER and Mr. C. H. WHITE. — Problems in the Treatment of Ores.

1 Sc. Total 1.

26thhf. Professor PETERS. — Advanced Course in the Metallurgy of Copper, Lead, and the Minor Metals.

2 Gr., 5 Sc. Total 7.

28thhf. Asst. Professor JAGGAR, assisted by Mr. MANSFIELD. — Geological Surveying.

1 Se., 10 Sc. Total 11.

Anthropology.

For Undergraduates and Graduates: —

1. Dr. FARABEE. — General Anthropology.

3 Gr., 22 Se., 46 Ju., 67 So., 3 Fr., 7 Sp., 8 Sc., 2 Bu., 1 Di. Total 159.

5. Dr. DIXON. — American Archaeology and Ethnology.

4 Gr., 13 Se., 25 Ju., 24 So., 1 Fr., 2 Sp., 1 Sc., 1 Bu. Total 71.

Primarily for Graduates:—

- ‡2³/₄f. Dr. FARABEE.—Somatology. 2 Gr., 1 Se., 1 Sp. Total 4.
 4¹/₄f. Dr. FARABEE.—Prehistoric Archaeology. European Ethnography.
 3 Gr., 4 Se., 4 Ju., 2 So., 1 Sp., 1 Sc. Total 15.
 7³/₄f. Dr. DIXON.—Ethnology of Oceania.
 3 Gr., 3 Se., 6 Ju., 10 So., 1 Sp., 1 Sc. Total 24.
 ‡8³/₄f. Dr. DIXON.—American Indian Languages. 1 Gr., 1 Ju., 1 So. Total 3.

COURSE OF SPECIAL STUDY.

- ‡20a. Professor PUTNAM.—American Archaeology and Ethnology.
 3 Gr. Total 3.

Anatomy, Physiology, and Hygiene.

1. Drs. DARLING, PROVANDIE, BACON, and HAPGOOD—Elementary Anatomy and Physiology. Personal Hygiene. Emergencies.
 11 Se., 41 Ju., 66 So., 1 Fr., 7 Sp., 13 Sc. Total 139.


In accordance with a vote of the President and Fellows whereby the Faculty may, under certain conditions, authorize a Doctor of Philosophy or a Doctor of Science to give instruction gratuitously or for such fees as he may himself collect, Dr. F. M. Urban was authorized to give, in the first half-year, a course of lectures on Psychological Acoustics, and Dr. Alexander Petrunkevitch was authorized to give, in the second half-year, a course of lectures on Cytology.

Some Changes in the Number of Students Enrolled in the Large Lecture Courses.

Economics 1, though it had lost ninety-one students since 1903-04, still contained four hundred and thirty-eight students, and remained the largest elective course. Government 1 came next, with four hundred and thirty-one students, an increase of fifty-five since 1903-04. Geology 4, no longer counted toward the degree of A.B., fell from four hundred and eighty-nine to eighty-five, of whom sixty-four were members of the Lawrence Scientific School. There was a striking increase of numbers in the more elementary courses in Anthropology. Anthropology 1 rose from forty-nine to one hundred and fifty-nine, and Anthropology 5 from thirty-seven to seventy-one.

Summer Courses of Instruction, 1905.

The following courses (seventy-one as compared with fifty-eight in 1904) were given, under the direction of the Faculty, in the summer of 1905. The abbreviations, with the addition of S.S. for


"member of the Summer School," are the same as those in the preceding list. A hand  points to each course that may be counted toward a degree:—

Greek.

A. Professor A. G. LEACOCK (Phillips-Exeter Academy).—Course for Teachers.
5 times a week, for 6 weeks. Total 0.


 B. Asst. Professor GULICK.—Homer. 5 times a week, for 6 weeks.
2 S. S. Total 2.

Classical Archaeology.

 Dr. G. H. CHASE.—History of Ancient Art. 5 times a week, for 6 weeks.
1 R., 2 Se., 5 Ju., 4 So., 7 Fr., 1 Sp., 2 Sc., 8 S. S. Total 30.

Latin.

A. Asst. Professor RAND.—General Course for Teachers. 5 times a week, for 6 weeks.
28 S. S. Total 28.

 B. Asst. Professor RAND.—The Life and Works of Virgil. 5 times a week, for 6 weeks.
1 Gr., 1 So., 1 Sp., 8 S. S. Total 11.


English.

A. Mr. P. G. CARLETON.—English Composition (elementary course). 5 times a week, for 6 weeks.
1 So., 24 S. S. Total 25.

B. Mr. R. P. UTTER.—English Composition (advanced course). 5 times a week, for 6 weeks.
25 S. S. Total 25.

C. Mr. W. B. PARKER.—English Composition (second advanced course).
5 times a week, for 6 weeks. 16 S. S. Total 16.

Associate Professor F. W. REYNOLDS (Univ. of Utah).—College Admission Requirements in English. 5 times a week, for 6 weeks. 41 S. S. Total 41.

 Dr. C. F. BROWN.—Anglo-Saxon. Anglo-Saxon Reader and Grammar.
5 times a week, for 6 weeks. 1 Gr., 1 Ju., 1 So., 14 S. S. Total 17.

Dr. H. de W. FULLER.—Shakspeare. 5 times a week, for 6 weeks.
9 S. S. Total 9.

Mr. COPELAND.—English Literature of the Eighteenth Century. 5 times a week, for 6 weeks.
24 S. S. Total 24.

Dr. C. F. BROWN.—English Literature of the Nineteenth Century, from the publication of the Lyrical Ballads to the death of Tennyson. 5 times a week, for 6 weeks.
16 S. S. Total 16.


Public Speaking, Platform Reading, Voice Training.

A. Mr. WILLARD.—Development of the Voice. 5 times a week, for 6 weeks.
1 R., 1 Law, 18 S. S. Total 20.

B. Asst. Professor WINTER and Mr. R. L. LYMAN.—Platform Reading and Oral Discussion. 5 times a week, for 6 weeks. 1 Gr., 8 S. S. Total 9.

C. Asst. Professor WINTER and Mr. R. L. LYMAN.—Platform Speaking. 5 times a week, for 6 weeks. 1 Gr., 6 S. S. Total 7.

German.

 **A. Mr. GROSSMANN.**—Composition and Conversation; Methods of Teaching German. 5 times a week, for 6 weeks.

1 Ju., 2 Fr., 2 Sp., 15 S. S. Total 20.

French.

A. Mr. W. B. SNOW.—Intermediate French Course for Teachers. 5 times a week, for 6 weeks.


1 R., 10 S. S. Total 11.

Phonetics.

 **Professor GRANDGENT.**—Elementary Course. 5 times a week, for 6 weeks.

1 Se., 1 Ju., 2 S. S. Total 4.

Italian.


 **Professor GRANDGENT.**—Course in Dante. 5 times a week, for 6 weeks.

1 Ju., 1 So. Total 2.

Spanish.


Asst. Professor FORD.—Introductory Course. 5 times a week, for 6 weeks.

1 Gr., 1 Sp., 5 S. S. Total 7.


 **Asst. Professor FORD.**—Advanced Course. 5 times a week, for 6 weeks.

1 Gr., 4 S. S. Total 5.


History and Government.

 **A. Asst. Professor H. A. SILL** (Cornell Univ.).—Roman History. 5 times a week, for 6 weeks.

1 Law, 1 Ju., 1 So., 1 Fr., 16 S. S. Total 20.

 **B. Professor S. B. HARDING** (Indiana Univ.).—Mediaeval European History. 5 times a week, for 6 weeks.

1 Law, 2 Se., 5 S. S. Total 8.


 **C. Professor E. B. GREENE** (Univ. of Illinois).—American History. 5 times a week, for 6 weeks.

1 Gr., 2 Ju., 2 So., 11 S. S. Total 16.


 **D. Dr. W. B. MUNRO.**—Civil Government. 5 times a week, for 6 weeks.

2 Ju., 2 So., 1 Fr., 8 S. S. Total 13.

Philosophy.


 { **Professor ROYCE.**—General Introduction to Philosophy. 5 times a week, for 6 weeks.

1 R., 1 Fr., 21 S. S. Total 23.


 { **Professor ROYCE.**—General History of Philosophy. 5 times a week, for 6 weeks.

2 R., 1 Fr., 19 S. S. Total 22.

Psychology.




 { **A. Dr. YERKES.**—Descriptive and Experimental Psychology. The Principles, Methods, and Values of Psychology. 5 times a week, for 6 weeks.

7 S. S. Total 7.


 { **B. Dr. YERKES.**—Comparative Psychology: The Growth of Mind in the Individual, and in the Race. 5 times a week, for 6 weeks.

3 S. S. Total 3.

Education.

-  S1. Asst. Professor A. O. NORRON. — The History of Education since the Twelfth Century. 5 times a week, for 6 weeks.
1 Ju., 1 So., 10 S. S. Total 12.
-  S2. Asst. Professor A. O. NORRON. — General Principles of Education and Courses of Study. 5 times a week, for 6 weeks.
1 Ju., 19 S. S. Total 20.
-  S3. Professor HANUS. — Organization and Administration of Schools and School Systems. 5 times a week, for 6 weeks. 1 So., 22 S. S. Total 23.


Theory of Pure Design.

-  Dr. ROSS, assisted by Messrs. H. H. CLARK and E. O. PARKER. — Twelve lectures and daily conferences. Eighteen hours a week of experimental practice, for 6 weeks.
1 So., 1 Sc., 59 S. S. Total 61.





Drawing and Painting.

- Dr. ROSS and Asst. Professor MOWLL. — Lectures, with technical exercises for teachers of drawing and painting, and for professional painters. Lectures, twice a week, for 6 weeks; eighteen hours of experimental practice a week, for 6 weeks.
2 Ju., 1 So., 19 S. S. Total 22.


Architecture.

- Mr. SWAN. — Architectural Drawing. Theory and Practice. 5 times a week, for 6 weeks.
1 Ju., 2 Sc., 6 S. S. Total 9.
- Professor H. L. WARREN. — Theory of Architectural Design. 5 times a week, for 6 weeks.
1 S. S. Total 1.
-  Professor H. L. WARREN. — History of European Architecture to about the year 1000. 5 times a week, for 6 weeks.
1 Law, 1 Ju., 5 So., 5 Fr., 1 Sp., 1 Sc., 2 S. S. Total 16.

Mathematics.

-  SD. Asst. Professor HUNTINGTON. — Advanced Algebra. 5 times a week, for 6 weeks.
1 Ju., 4 So., 2 Fr., 1 Sc., 8 S. S. Total 16.
-  SE. Mr. J. K. WHITEMORE. — Solid Geometry. 5 times a week, for 6 weeks.
1 Se., 1 Ju., 2 Fr., 1 Sp., 2 Sc., 5 S. S. Total 12.
-  SA. Asst. Professor LOVE. — Plane Trigonometry. 5 times a week, for 6 weeks.
1 Se., 1 Ju., 5 So., 2 Fr., 5 Sc., 6 S. S. Total 20.
-  SB. Mr. A. B. FRIZELL. — Plane Analytic Geometry. 5 times a week, for 6 weeks.
1 Se., 7 S. S. Total 8.
- S2. Asst. Professor HUNTINGTON. — Differential and Integral Calculus. 5 times a week, for 6 weeks.
1 Law, 2 Sc., 6 S. S. Total 9.


Astronomy.

-  Professor WILLSON and Mr. W. C. BRENKE. — Elementary Course in Practical Astronomy. 5 times a week, for 6 weeks. 1 Fr., 2 S. S. Total 3.

Physics.

B. Asst. Professor W. E. McELFRESH (Williams Coll.) and Mr. L. D. HILL. —
Elementary Experimental Physics. 5 times a week, for 6 weeks.

26 S. S. Total 26.

 **C. Dr. H. W. MORSE. — Advanced Course in Experimental Physics.**
5 times a week, for 6 weeks.

13 S. S. Total 13.


Chemistry.

Asst. Professor BAXTER and Dr. R. C. WELLS. — Elementary Chemistry. 5 times
a week, for 6 weeks.


16 S. S. Total 16.

Asst. Professor BAXTER. — Quantitative Analysis. 5 times a week, for 6 weeks.

2 S. S. Total 2.


 **Professor A. S. WHEELER (Univ. of No. Carolina). — Organic Chemistry.**
5 times a week, for 6 weeks.


1 So., 7 S. S. Total 8.

 **Asst. Professor BAXTER. — Chemical Research. 5 times a week, for 6**
weeks.

1 Gr., 1 S. S. Total 2.


Botany.


 **S1. Dr. R. G. LEAVITT and Mr. J. R. JOHNSTON. — Introductory Course :**
The Structure, Physiology, and Ecology of Flowering Plants. 5 times a
week, for 6 weeks. 1 R., 1 Se., 1 So., 1 Fr., 1 Bu., 10 S. S. Total 15.

 **S2. Mr. A. B. FLOWMAN. — Advanced Course : Morphology, Histology and**
Ecology of Flowering Plants. 5 times a week, for 6 weeks.


1 So., 1 Fr., 7 S. S. Total 9.

Geology.

 **S1. Professor SHALER and Asst. Professor J. E. WOODMAN (Dalhousie**
Coll.). — Elementary course. Lectures, laboratory, and field work. 5 times
a week, for 6 weeks. 2 R., 1 Ju., 1 Fr., 5 S. S. Total 9.

 **S2. Asst. Professor J. B. WOODWORTH. — General Field Geology in the**
Rocky Mountains of Montana. 1 Gr., 1 So., 2 S. S. Total 4.

Geography.

 **Dr. P. S. SMITH, assisted by Mr. W. S. TOWER. — Lectures, laboratory,**
and field work. 5 times a week, for 6 weeks. 1 Sp., 8 S. S. Total 9.

Physical Education.

Dr. SARGENT and assistants. — Elementary and advanced courses in theory.
5 weeks. 78 S. S. Total 78.

Dr. SARGENT and assistants. — Elementary and advanced courses in practice.
5 weeks. 142 S. S. Total 142.

The following courses were given in the summer as part of the regular instruction of the Lawrence Scientific School. Some of them were given at Squam Lake, New Hampshire : —

Engineering.

- 4a. Asst. Professor HUGHES. — Plane Surveying. Field work. Daily, 6 weeks.**
1 Law, 3 Gr., 1 Se., 21 Ju., 27 So., 11 Fr., 46 Sc., 9 S. S. Total 119.
- 4d. Asst. Professor HUGHES. — Railroad Surveying. Daily, 3 weeks.**
1 Law, 3 Gr., 11 Ju., 20 So., 5 Fr., 41 Sc., 5 S. S. Total 86.
- 4c. Asst. Professor HUGHES. — Geodetic Surveying. Daily, 2 weeks.**
1 Law, 9 Ju., 21 So., 6 Fr., 38 Sc., 2 S. S. Total 77.
- 10a. Mr. S. E. WHITING, assisted by Mr. E. R. MARKHAM. — Chipping, filing, and fitting. 90 hours.**
1 Gr., 1 Se., 4 Ju., 1 So., 29 Sc., 2 S. S. Total 38.
- 10b. Mr. S. E. WHITING, assisted by Mr. E. R. MARKHAM. — Blacksmithing. 90 hours.**
1 Gr., 1 Se., 4 Ju., 1 So., 28 Sc., 3 S. S. Total 38.
- 10c. Mr. S. E. WHITING, assisted by Mr. E. R. MARKHAM. — Pattern Making, etc. 90 hours.**
1 Gr., 1 Se., 4 Ju., 1 So., 27 Sc., 4 S. S. Total 38.
- 10e. Mr. S. E. WHITING, assisted by Mr. E. R. MARKHAM. — Machine-Shop Practice. 90 hours.**
1 Gr., 1 Se., 4 Ju., 1 So., 28 Sc., 1 S. S. Total 36.

It will be observed that the summer courses which may be counted toward a degree have increased in number and variety. The increase results from a vote of the Faculty, December 20, 1904 : —

“That the Committee on Summer Courses of Instruction be requested to consider and to report to the Committee on Instruction what additional courses in the Summer School should be counted for the degrees of Bachelor of Arts and Bachelor of Science.”

In January, 1905, the Faculty voted : —

“That a student who wishes to take a summer course for the purpose of counting it for a Bachelor's degree, shall be required to consult the instructor at the beginning of the course and obtain his consent to count it ;

“That a student be required to attain a grade of C or higher in a summer course in order to count it for a Bachelor's degree.”

Thus the Faculty, while encouraging the use of the Summer School for work toward the Bachelor's degree, hopes to confine such work to serious persons for whom, and for whom only, the Summer School is designed.

In February the Faculty voted an interesting addition to the possibilities of summer courses : —

“Credit will be given to any Harvard students who satisfactorily accomplish the work of any of the summer courses in Geological Field Work announced in the intercollegiate pamphlet, in which at least five weeks are spent under the direction of an instructor, and who pass an examination in Cambridge under the Department of

Geology. The appropriate Dean should in all cases be consulted beforehand in order that a clear understanding may be gained of the conditions under which credit will be given."

This arrangement secures the obvious advantage of the summer for the study of Geology in various distant places, and secures it without danger to the standard of work.

Instruction provided for 1905-06.

For the first time the courses in Social Ethics, though remaining in charge of the Division of Philosophy, are grouped by themselves under a separate heading in the announcement of courses. They include a new half-course in *Criminology and Penology* under Dr. Rogers, and a new research course at the School for Social Workers, under Dr. Brackett.

The most noteworthy addition to the instruction of the year is the result of the interchange of professors with Germany. Professor Friedrich Wilhelm Ostwald, of the University of Leipzig, lectures on *Philosophy of Natural Science* (Philosophy 3a¹), *Fundamental Conceptions of Chemistry* (Chemistry 17¹), and *Catalysis* (Chemistry 18¹). He also delivers the Ingersoll Lecture, and has chosen for his subject "Individuality and Immortality."

The courses in Egyptology, which were to be increased in number, are bracketed because of Assistant Professor Lythgoe's absence. The courses in Greek and Latin are as varied and strong as usual. Comparative Philology suffers from the continued illness of Professor von Jagemann. In the Department of English, the return of Professor Wendell revives his half-course in *The Literary History of America*, and opens a new course in *The Literary Origins of English Literature*. Professor Baker offers to graduates a new half-course in *The Technique of the Drama*. Professor A. S. Hill, who has built up the Department and, except when absent for his health, has conducted English 5 from its beginning, retires from all college work, after thirty-three years of service. In German, the subjects of the seminary courses are *Mediæval German Religious Drama* (Professor Francke), and *Klopstock* (Assistant Professor Walz). Courses in Netherlandish (a half-course in Dutch grammar and the reading of selected texts, and a half-course in the reading of Netherlandish literature) are offered for the first time; the instructor is Dr. H. deW. Fuller. In Comparative Literature the number of courses is still small. In History, Course 27 (*European History in the Sixteenth and Seventeenth Centuries*) is now offered primarily to undergraduates. Professor Dennis, of the University

of Chicago, gives half-courses in *European History in the Napoleonic Period*, and in the *History of British India*. In Government, the return of Professor Stimson opens Government 16, a full course in the *Tendencies of American Legislation, with an historical view of prototypes in English legislation*. Professor Stimson offers also, primarily for graduates, a course in *American Constitutional Law: a study of constitutional principles and limitations throughout the United States*. In Economics, Assistant Professor Gay gives a half-course in *European History and Commerce in the Nineteenth Century*; and Professor Wambaugh of the Law School a half-course (not to be counted toward a degree) entitled *A General View of Insurance*. In History of Religions, Professor G. F. Moore gives a new half-course in *Judaism, from 198 B.C. to modern times*. In Philosophy, Professor Fenn of the Divinity School opens his half-course in *Theism* to candidates for the degrees of A.B. and A.M. In Education, the return of Professor Hanus and the appointment of Mr. A. O. Norton as Assistant Professor have materially strengthened the department. In Fine Arts, Mr. Pope offers a new course in *Landscape Painting: its history and principles, with special reference to the works of Turner*. In Landscape Architecture, Mr. Shurtleff's course in *Details of Construction* appears in the regular announcement for the first time. In Music, Professor Paine, the father of the Department, has retired after a long service: his courses are given by Assistant Professors Spalding and Converse. In Mathematics, Assistant Professor Bouton offers a half-course in *Solid Analytic Geometry*, Professor J. M. Peirce a half-course in *Introduction to Higher Plane Curves*, Mr. Whittemore a half-course in *The Calculus of Variations*, Professor B. O. Peirce a course called *Trigonometric Series, Introduction to Spherical Harmonics*, and a course in *Methods of Mathematical Physics*. In Physics the courses of research continue to be of peculiar interest and value. Forestry gains importance from the expansion of the courses in Silviculture, and the appointment of two Assistant Professors. In Geology, Professor Shaler's elementary course, Geology 4, may again be counted toward the degree of A.B., and is strengthened by much laboratory and field work. In Mineralogy and Petrography, Professor Wolff offers a half-course in *Advanced Petrography*. In Anthropology, Dr. Tozzer offers a new half-course in the *Archaeology and Ethnology of Central America*.

EXAMINATIONS FOR ADMISSION TO HARVARD COLLEGE
AND THE LAWRENCE SCIENTIFIC SCHOOL.

In my last report I noted that Harvard University had become a member of the College Entrance Examination Board. Last year the advantage of membership to Harvard College was nearly or quite lost because, in two important departments, Harvard College had not then accepted the examinations of the Board. As the Secretary of the Faculty, Mr. John Goddard Hart, has pointed out, the ways of admission to Harvard College have become numerous and complicated. A process which shall result in a standard equally high, but less elaborate, is much to be desired. The Harvard examination papers are prepared with no end of labor, and, contrary to what has been publicly asserted about them, they are designed (beyond all other papers that I have seen) to test not so much what the student has done as what he can do. Teachers who are not Harvard graduates have testified to the value of the Harvard papers in keeping up, through these days of admission by certificate, the strength of admission examinations. "I fit my boys for the Harvard examinations," said a graduate of Yale, the head of an important school, "and I know that then they can get admitted anywhere." Yet these papers have made access to Harvard College unfortunately difficult to many of the persons who most need Harvard College and are most needed by it — the ablest young men in the public high schools which cannot maintain separate instruction to fit boys for Harvard examinations; and when the College Entrance Examination Board achieved something like uniform requirements for most colleges throughout the country, the Harvard scheme, in spite of its varied options, seemed to teachers and pupils more remote than ever. A large number of enterprising boys from places where Harvard influence is small, have worked their way to Harvard College and have not regretted their effort. A larger number must have been dissuaded by teachers, by parents, and by their own doubts of success. For these latter students the complete adoption, as one method of admission to Harvard College, of the examinations offered by the College Entrance Examination Board, will do much, and will do it without danger to Harvard standards. In admission examinations the final question should always be, "Does this young man, from what we know through his teachers and from his total performance at the examinations, show fitness to profit by the teaching of our College?" On such a question the papers of the College Entrance Examination Board can

throw almost or quite as much light as the Harvard papers themselves. More light, indeed, if the school that the boy has attended gives instruction in the requirements of the Board, and does not give instruction in what have been the exclusive requirements of Harvard College.

Examination papers, especially in a college with a highly developed elective system, need constant protection against the specialist who makes them, and who is prone to forget that the persons for whom they are made are not, and are not likely to become, specialists in his department.* In Harvard College the check applied to the specialist has been not merely the occasional indignation of schoolmasters, but the constantly outspoken criticism of each paper by the authors of the other papers. The Secretary of the Faculty suggests that a further check might well be applied in the separation of the Committee on Admission Examinations from the Committee on Admission, or rather, in the creation of a new Committee on Admission. He suggests that the Committee on Admission Examinations end its work with the reading of the examination books in the several Departments, and that the Committee on Admission then consider, as the Committee on Admission Examinations now tries to do, the total record of each candidate; that the members of the new Committee, — not primarily specialists, — consider every candidate's total achievement in the light of his opportunity, of his record elsewhere, and, if his case seems doubtful, in the light also of the personal impression that he makes when met face to face. In other words, the new Committee would do on a larger scale what the Dean has long done on a smaller one. Without authority to change a single examination mark, it would have, during good behavior, absolute authority to admit or reject a candidate. Moreover, its attitude would be hospitable; it would look toward reasons for admitting the candidate rather than reasons for keeping him out.

The chief fault in schemes of admission requirements is their complication. It used to be said that any boy who could understand the Harvard scheme of admission examinations ought to be admitted; and the remark is equally applicable to the requirements of the College Entrance Examination Board. The difficulty of uniting a variety of schools and colleges (each with its hobby) in a simple scheme for examinations is much like the difficulty of uniting the

* Since writing this sentence, I have read a recent paper by Mr. Wilson Farrand, Head Master of Newark Academy. "The trouble is," says Mr. Farrand, "that our requirements [for admission to colleges] have been shaped by specialists whose interest has been in the subject rather than in the student."

Faculty of Arts and Sciences in a simple scheme for anything. In this matter, to reach a simplifying end by a complicating means, inappropriate as it is, seems necessary. The College Entrance Examination Board has done and is doing great service to school and college alike; and as it grows stronger, its requirements may and should become simple.

CANDIDATES FOR A.B. IN THE GRADUATE SCHOOL.

Near the close of the academic year 1903-04, the Faculty voted to abolish the so-called Consolation A.B., a degree that had sometimes been awarded to graduates of other colleges whose work in the Harvard Graduate School had been respectable but had fallen short of the requirements for the A.M. By the new vote, graduate candidates for the A.B. were required to transfer themselves to Harvard College before Christmas. A vote on the proposition that candidates for the A.M. should be required to register themselves in the Graduate School or in some Graduate Department of the University, was deferred until after the long vacation. On the eighteenth of October, the Faculty voted that —

“Undergraduates who have completed the requirements for the degree of Bachelor of Arts will be admitted to the Graduate School as candidates for the degree of Master of Arts; undergraduates who have completed the requirements for the degree of Bachelor of Arts, with the exception of a single course, may, in special cases, be admitted to the Graduate School as candidates for the degree of Master of Arts. The special cases are those of men who, in the judgment of the Dean of Harvard College and of the Administrative Board of the Graduate School, are likely to be able to secure the degree of Master of Arts in one year. The entire work of such men shall be carried on under the supervision of the Administrative Board.”

Thus there are still candidates for the degree of A.B. in the Graduate School; but they are persons nearly all of whose work in their year of candidacy for the A.B. is ultimately to be counted for the A.M.

DIVERS PLANS FOR THE REQUIREMENTS OF THE DEGREE OF A.B.

At the end of the academic year 1903-04 there were before the Faculty so many schemes for the revision of the terms on which the degree of A.B. is awarded, that the only hope of clearing the docket was in the appointment of a Committee. That Committee, known as the Committee on Divers Plans for the Requirements of the

Degree of A.B., reported to the Faculty, in November, a three-year plan and a four-year plan: these plans were alike in reverting to the principle which the Faculty has in late years abandoned — the principle of not counting additional courses passed in any one year toward the work of a later year. On December 6 the Faculty voted:

“That the Faculty accepts the principle proposed by the Committee that, except in case of illness or other exceptional circumstances, a course passed in one year in excess of the number of courses required that year shall not be carried over and placed to the student's credit in a subsequent year; but deficiencies in one year may be made up in a subsequent year, provided that the student does not work at the rate of more than six courses.”

This vote of the Faculty, however, was left swinging, since both plans of the Committee were finally rejected. Both plans were laid on the table in November, the three-year plan not to be taken off, the four-year plan to be taken off in May and rejected by a vote of fifty-five to seventeen.

EFFORT TO RAISE THE STANDARD OF STUDENTS' WORK.

One sentence in the preamble to the Report of the Committee on Divers Plans for the Requirements of the Degree of A.B. was referred to the Committee on Instruction; and on March 7, 1905, the Committee on Instruction reported as follows: —

On November 29, 1904, the Faculty of Arts and Sciences voted to refer to the Committee on Instruction, for consideration and report, this sentence in the preamble to the Report of the Committee on Divers Plans for the Requirements of the Degree of A.B.: —

“It will recommend further that the Committee on Instruction consider the practicability of so administering the courses of instruction as to secure from the students a satisfactory amount of work, and that the Committee on Instruction reclassify such courses as are found to require more work or less work than the normal amount.”

The Committee on Instruction immediately sent inquiries to all the instructors of such courses in the first two groups as may be counted toward the degree of A.B., and it has received replies in nearly all important cases. These replies indicate: —

(1) That it is the general intention of instructors to require a reasonable amount of work (roughly nine hours a week, including the lectures) in every course.

(2) That instructors in courses which have been or are regarded as soft are in most cases making the courses harder.

(3) That when the courses do not require a reasonable amount of work, the difficulty is nearly always inadequate provision made by

the Corporation for the proper handling of the courses. This inadequate provision may be in the number and the quality of Assistants, or in Laboratory facilities, or in any part of the proper equipment of a large course.

(4) That there is a strong feeling among the instructors in general against the official recognition in a large lecture course of two kinds of students, — those who take the course thoroughly, with frequent tests, and those who take it superficially, with nothing but the lectures and the mid-year and final examinations. The proposed counting of a course as a whole course for the thorough and as a half-course for the superficial is not, in the minds of most instructors, a sufficient remedy for the evil of deliberately uniting the two kinds of students in one lecture room and one course.

(5) That the courses now demanding more than the normal amount of time are in healthy condition, and should not, except possibly in a few cases, be counted for more than their present value.

In view of these considerations, the Committee has voted : —

(A) That in the opinion of the Committee it is undesirable to adopt the general principle of dividing the students in large courses into two classes, — those who take the courses for full credit, and those who take them for half credit. The Committee believes, however, that such a division may rightly be made in special cases at the request of the Departments concerned.

(B) That though the equalizing of work in the various College courses is not possible or desirable, and though no theoretical number of hours required can make the work equal for men of different capacities and different ambitions, it is yet possible and desirable for every instructor to keep in mind as a rough estimate of the normal amount of work in a College course, including lectures and recitations, nine hours a week.

(C) That the satisfactory remedy for the soft lecture courses is not, except in a few cases, the rating of courses differently for different students, but the provision of sufficient tests, — a provision which can be brought about by nothing but a sufficient number of first-rate assistants.

On the acceptance of this report, the Faculty voted : —

“To express to the President and Fellows their opinion that without a larger expenditure upon assistants and other facilities for instruction, a standard worthy of the College cannot be maintained in the large lecture courses.”

WORK OF THE COMMITTEE ON INSTRUCTION.

The Committee on Instruction had a year of exceptional activity, meeting every week for a long period. Besides discussing the preamble to the report of the Committee on Divers Plans for the Requirements of the Degree of A.B., it considered an interesting request for the establishment of Saturday courses for teachers, inquired into an alleged evil in the election by Seniors and Juniors of courses regularly open to Freshmen, and did its customary work for the announcement of courses of instruction. As to courses for teachers, it was obliged to report: "The Committee thinks it inexpedient, in the present financial condition of the University, to offer Saturday courses for teachers." As to Seniors and Juniors in Freshman courses, it reported that, after a careful investigation of the statistics showing the number of Seniors and Juniors registered in courses regularly open to Freshmen, it found in the practice no evil that needs legislation.

ACTION ON THE NEW SCHEME OF REQUIREMENTS FOR THE DEGREE WITH DISTINCTION.

In March, the Dean of Harvard College, on behalf of a special Committee appointed to consider the recommendations of Divisions and Departments concerning degrees with distinction, presented a report satisfactory to the Faculty, and the new scheme went into operation at once. The effect cannot yet be prophesied.

QUESTIONS FOR THE FACULTY OF ARTS AND SCIENCES.

The Faculty has now before it at least two propositions for a revision of the requirements for the degree of A.B.; and it is seldom free from such propositions. It must also consider early the far-reaching question of the relation of the Lawrence Scientific School and of Harvard College to the new school of Applied Science which will be established with the extraordinary gift of the late Gordon McKay, and the less alluring but equally vital problems of Admission Examinations. In every one of these questions, it should strive, I earnestly believe, for a large simplicity, and should entrust details to administrative committees responsible to itself for nothing but the reasonable exercise of full power. The radical fault in its schemes, whether for admission or for graduation or for anything else, is, as I have intimated, a detailed complication — the result of

unwillingness to accept anything without minute information regarding every nook and corner of it. Such information can never be thorough, after all. No scheme that concerns the lives of varied human beings can fail to reveal, after a short trial, new nooks and new corners — not merely unexplored but unimagined; and thus the Faculty finds itself hoisted by some of its own petards which, from their innocent appearance, have not been recognized as petards at all. It is therefore constantly revising its plans, but not so much with a view to simplicity as with a view to unattainable thoroughness. What it needs is simple laws supported by thorough administration.

In the art of touching nothing that it does not complicate, the Faculty of Arts and Sciences is by no means alone. Those persons in charge of athletics have attempted a similar thoroughness in defining professionalism — with even sadder results. In the relation of one University to another, whether for athletic purposes or for academic, a crying evil is the attempt to establish many elaborate rules that shall take care of themselves, rather than a few simple rules that assume the service of judicious and honorable men to take care of them. Harvard University, always a leader in many things, may well show its leadership in a magnanimous simplicity of written law.

L. B. R. BRIGGS, *Dean*.

THE COLLEGE.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR,—I have the honor to submit to you a report on the condition of Harvard College for the academic year 1904—05.

The total number of students at the time when the lists were compiled for the Catalogue of 1904—05 was two thousand and nine, divided as follows :—

Seniors	265
Juniors	442
Sophomores	610
Freshmen	545
Total number of Undergraduates	1862
Special Students	147
Total	2009

Compared with the registration at the corresponding time in the preceding year, 1903—04, these figures show a net loss of sixty-four, divided as follows :—

	Gain.	Loss.
Seniors . . . . .	..	60
Juniors	17	..
Sophomores . . . . .	..	20
Freshmen . . . . .	..	11
Special Students	10	..
	27	91
		27
Net loss		64

Most noteworthy in a study of the tables of losses and gains during the last five years is the almost steady decrease in the number of students registered in the Senior Class :—

	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Number of students in College	1992	1983	2109	2073	2009
Registered as Seniors	388	346	381	325	265

During the year the following students died :—

- Morton Wendell Farrar, '05, . . . Died March 16, 1905.
 James Greenleaf Fuller, '07, . . . Died March 30, 1905.
 Walter LeGrand Gifford, '07, . . . Died September 23, 1905.
 Robert Huntington Jacobs, '08, . . . Died September 7, 1905.

On the Commencement Programme in 1905 the names of four hundred and sixteen students appeared, recommended by the Faculty of Arts and Sciences, — three hundred and ninety-eight in June, eighteen in March, — for the degree of Bachelor of Arts; of these two hundred and eleven were registered as Seniors. The registration of the remainder is indicated in the next table:—

On leave of absence all the year	35
On leave of absence first half-year	1
On leave of absence second half-year	21
Graduate Students	11
Registered in Law School	34
Registered in Medical School	7
Registered in Scientific School	5
Special Students	1
Registered in Sophomore Class	8
Registered in Junior Class	17
	<hr/> 140
To be designated "as of 1906" in the <i>Quinquennial</i> . . .	65
	<hr/> 205

The next tables show the losses and gains in the three younger classes between November, 1904, and November, 1905:—

	November, 1904.	Loss.	Gain.	November, 1905.
Class of 1906 . .	(Juniors) 443	245	53	(Seniors) 251
Class of 1907 . .	(Sophomores) 610	238	49	(Juniors) 421
Class of 1908 . .	(Freshmen) 545	126	180	(Sophomores) 599
		<hr/> 609	<hr/> 282	

Net loss in the three classes between Nov., 1904, and Nov., 1905, . . . 327

*(33 more than in 1904)

The discrepancy between the number of students in the classes as given in the last table and the number given in the Catalogues of the corresponding years is caused by students entering or withdrawing from classes after the Catalogue goes to press.

* In the report of 1903-04 by a typographical error the net loss, which should have been given as 294, was printed 225. To this is due the apparent discrepancy between the tables of 1904 and 1903.

	Class of 1906.	Class of 1907.	Class of 1908.	Total for three classes.
LOSSES.				
Left College before the end of the year . .	17	29	43	89
Left College at the end of the year	207	40	22	269
Were "dropped" and left College	5	31	14	50
Entered a lower class	10	103	36	149
Entered a higher class	6	35	11	52
Total loss	245	238	126	609
GAINS.				
From higher classes	6	10	102	118
From lower classes	35	11	..	46
Newly admitted	12	28	78	118
Total gain	53	49	180	282
Net loss	192	189	..	327
Net gain . . . . .	..	..	54	..

The next table shows the losses and gains in the number of Special Students since December, 1904: —

In attendance, December, 1904	147
Left College before the end of the year	18
Left College at the end of the year	57
Entered a College class	38
Total loss	113
Reentered College as Special Students in 1905	34
Newly admitted	117
Total	151
Net gain	4

The Freshman Class in 1905-06 numbers fifty-seven less than that in 1904-05: —

Admitted by examination in 1905	416
Admitted by examination before 1905	23
From a higher class	41
“ the Special Students	4
“ the Lawrence Scientific School	4
Total	488

A comparison of this table with that of the preceding year shows in all categories diminutions, only one of which, the third, that of students dropped from the Freshman Class of the preceding year, may be viewed with satisfaction.

Seventy candidates, who took in June some of their final examinations for admission, intending to postpone the remainder until September, did not complete this examination in September: three of these were transferred to the Lawrence Scientific School as postponing candidates, and two took examinations over in September for the Lawrence Scientific School; of the remaining sixty-five, ten passed in so few subjects that they were notified that they must take all of their examinations over again in September (eight of these ten tried over their examinations); thirty-five of the sixty-five were not allowed to try the examinations again, and three were allowed to become preliminary candidates in September. Thirty-four, rejected in June, took their examinations again in September; seven, rejected in June, were allowed to become postponers; one, rejected in June, was allowed to become a preliminary candidate in September; and five, who registered as postponing candidates but who passed in a sufficient number of points to entitle them to admission, were allowed to change their registration, and received admission certificates. Eight, who took examinations for Harvard College, were later admitted to the Lawrence Scientific School, and nine, who had been admitted to the Scientific School, were afterwards admitted to Harvard College. Fourteen, who presented themselves as final candidates, were allowed, after the examinations, to count a part of the examinations they had passed for a preliminary certificate. One, rejected in June, was changed to a postponing candidate for the Lawrence Scientific School; and eleven boys, exceptional cases, were allowed to add to a preliminary certificate.

Five hundred and ninety-three candidates, fifty-six less than in 1904, took Final Examinations. Of the five hundred and ninety-three, four hundred and fifty-four had preliminary certificates (among these were eleven who, for special reasons, had divided their examinations among three years, ten completing their examination in June, and one in September); fifty-one divided the examinations between June and September; twenty-seven took all of their examinations in June; twenty-five took all in September; thirty-six who had a preliminary certificate divided their Final Examinations between June and September.

	Admitted.	Admitted "Clear."	Rejected.
June	387	198	56
September	121	26	29
Total	508	224	85

Of the five hundred and ninety-three candidates, four hundred and forty-seven offered ancient history rather than modern; sixty, modern rather than ancient; fifty-six, both ancient and modern; fifteen, ancient and advanced European; seven, modern and advanced European; one, ancient and the history of a period; and seven, neither.

The next table shows, in order of the number of choices, the offerings of advanced subjects: Latin as usual holds the first place.

1903.	1904.	1905.
Latin.	Latin.	Latin.
French.	French.	French.
Greek.	Greek.	Greek.
German.	German.	German.
Log. and Trig.	Solid Geometry.	Solid Geometry.
Solid Geometry.	Log. and Trig.	Log. and Trig.
History.	History.	History.
Algebra.	Algebra.	Algebra.
Astronomy.	Physics.	{ Physics.
		{ Meteorology.
Physics.	Meteorology.	{ Astronomy.
Meteorology.	Astronomy.	{ Counterpoint.

The next table gives the details on which the foregoing table is based:—

Number of candidates offering	1903.	1904.	1905.
	Per cent.	Per cent.	Per cent.
Advanced Greek	279 46.12	281 43.80	258 43.51
Advanced Latin	504 88.31	511 78.74	480 80.94
Advanced German	182 30.08	204 31.43	203 34.23
Advanced French	344 56.86	385 59.32	372 62.73
Advanced History	78 12.89	90 13.87	77 12.98
Logarithms and Trigonometry	100 16.53	121 18.64	113 19.06
Solid Geometry	85 14.05	122 18.80	114 19.22
Advanced Algebra	51 8.50	64 9.86	49 8.26
Advanced Physics	4 .66	6 .92	4 .67
Astronomy	6 .99	4 .62	2 .34
Meteorology	2 .33	5 .77	4 .67
Counterpoint . . . . .	. . . .	. . . .	2 .34

The next two tables show, for each study, the percentage of failure (*A*) in the complete records of the candidates, including the records of their successful Preliminary Examinations, and (*B*) in their records at Final Examinations only:—

(<i>A</i>)	1900.	1901.	1902.	1903.	1904.	1906.
ELEMENTARY STUDIES.						
English	10.2	9.42	6.25	8.43	3.86	7.24
Greek	4.	3.18	3.16	3.55	3.61	2.56
Latin	6.	3.91	5.91	6.77	7.45	12.59
German	17.85	16.67	17.82	11.19	16.61	16.88
French	7.6	7.05	7.71	7.09	9.69	10.52
History (Ancient)	8.2	10.46	12.14	10.71	7.65	5.56
History (Modern)	7.44	16.54	16.67	6.49	8.75	6.49
Algebra	14.	14.97	10.44	10.70	11.20	12.69
Geometry	24.	7.06	13.83	11.11	9.33	34.69*
Plane Geometry	26.60	16.88	21.86	17.03	17.05	16.39
Physics	18.44	17.07	17.97	14.38	14.88	18.81
Chemistry	12.	10.82	6.90	11.11	13.83	5.59
Physiography	11.	33.33	64.29	57.89	28.57	18.75
Anatomy	20.	50.	27.27	50.	30.77	100.
Harmony . . . . .	..	..	..	..	..	21.43
ADVANCED STUDIES.						
Greek	13.16	12.96	11.04	9.32	9.25	8.14
Latin	23.45	21.74	27.36	20.42	27.01	30.21
German	30.	31.21	31.85	28.57	37.75	33.99
French	26.47	27.57	22.19	25.29	21.04	21.51
History	41.66	45.1	35.37	42.31	37.78	49.35
Logarithms and Trigonometry . .	23.86	28.85	25.77	23.	33.06	37.17
Solid Geometry	22.58	27.78	41.56	44.71	37.70	50.88
Algebra	41.17	48.	56.34	19.61	50.	44.90
Physics	37.5	71.43	100.	75.	66.67	25.
Astronomy	100.	.00	66.67	66.67	50.	100.
Meteorology	50.	100.	.00	.00	20.	.00
Counterpoint . . . . .	..	..	..	..	..	.00

As usual the greatest fluctuation in percentages is in the subjects offered by fewest candidates.

Six hundred and twenty-nine candidates (thirty less than in 1904) took Preliminary Examinations; of these, four hundred and sixty-nine (forty-three less than in 1904) received certificates (Table *C*).

There were also two candidates who combined Board Examinations with those of Harvard College: one, eight points (4 Board); one, fourteen points (6 Board).

(B) ELEMENTARY STUDIES.			ADVANCED STUDIES.		
	1904.	1905.		1904.	1905.
English	5.60	10.91	Greek	9.56	8.70
Greek	13.22	11.49	Latin	28.75	31.73
Latin	21.62	30.17	German	44.51	40.59
German	29.78	30.06	French	26.91	27.78
French	22.98	26.83	History	38.64	53.52
History (Ancient) . .	14.24	12.28	Log. and Trig. . . .	34.78	38.89
History (Modern) . .	17.07	15.15	Solid Geometry . . .	39.32	51.79
Algebra	28.13	32.03	Algebra	53.33	53.66
Geometry	16.28	*45.95	Physics	60.67	25.
Plane Geometry . . .	25.26	24.65	Astronomy	50.	100.
Physics	17.94	16.85	Meteorology	20.	.00
Chemistry	17.22	7.19	Counterpoint . . . .	.00	.00
Physiography	30.77	20.			
Anatomy, etc.	36.36	100.			
Harmony . . . . .	.00	23.08			

(C) Eight points	82
Nine "	4
Ten "	70
Eleven	4
Twelve "	90
Thirteen points	3
Fourteen "	99
Fifteen "	6
Sixteen "	46
Eighteen "	20
Nineteen "	7
Twenty "	18
Twenty-one points	2
Twenty-two "	5
Twenty-three "	2
Twenty-four "	2
Less than eight points	9
Received certificates	469
Failed	160
Total number of candidates	629

The next table gives the percentages of failure in Preliminary Studies : —

* Eleven who failed in Geometry (three points) were allowed credit for Plane Geometry (two points).

ELEMENTARY.			ADVANCED.		
	1904.	1906.		1904.	1906.
English	27.34	61.03	Greek	36.36	38.83
Greek	9.19	8.98	Latin	54.72	50.
Latin	36.78	39.20	German	20.41	30.
German	30.05	27.23	French	35.20	36.54
French	25.55	28.77	History	50.	100.
History (Ancient) . .	22.76	22.31	Log. and Trig.	38.33	52.94
History (Modern) . .	35.29	26.09	Solid Geometry	38.46	66.67
Algebra	24.19	25.15	Algebra	40.	27.78
Geometry	34.62	59.26††	Physics	*100.	Not off'd
Plane Geometry . . .	27.09	34.94	Astronomy	*100.	Not off'd
Physics	17.21	22.30	Meteorology		Not off'd
Chemistry	9.43	4.65			
Physiography	40.	.00†			
Anatomy, etc. . . . .	.00†	.00**			
Harmony . . . . .	.00*	.00†			

In printing statistics of "Credits" won at the examinations for admission to College, I give (A) the "Credits" won this year at Final Examinations; (B) those won this year and some earlier year by the final candidates of this year; and (C) those won this year at Preliminary Examinations:—

(A) ELEMENTARY STUDIES.			ADVANCED STUDIES.		
	June.	Sept.		June.	Sept.
English	15	1	Greek	18	2
Greek	2	0	Latin	38	2
Latin	16	3	German	18	2
German	24	2	French	12	1
French	4	1	History	0	1
History (Ancient) . .	13	2	Log. and Trig.	14	3
History (Modern) . .	3	0	Solid Geometry	6	1
Algebra	31	8	Algebra	2	1
Geometry	4	1	Physics	0	0
Plane Geometry . . .	18	0	Astronomy	0	0
Physics	89	10	Meteorology	1	0
Chemistry	29	1	Counterpoint	1	0
Physiography	2	0			
Anatomy, etc.	0	0			
Harmony	1	0			
	251	29		110	13

† Two candidates only. * One candidate only. ** Five candidates only.

†† Four who failed in Geometry (three points) were allowed credit in Plane Geometry (two points).

(B) ELEMENTARY.		ADVANCED.	
English	18	Greek	20
Greek	39	Latin	41
Latin	56	German	80
German	58	French	14
French	18	History	1
History (Ancient)	43	Log. and Trig.	17
History (Modern)	4	Solid Geometry	7
Algebra	141	Algebra	8
Geometry	6	Physics	0
Plane Geometry	38	Astronomy	0
Physics	133	Meteorology	1
Chemistry	38	Counterpoint	1
Physiography	2		
Anatomy, etc.	0		
Harmony	1		
	590		140

(C) ELEMENTARY.		ADVANCED.	
English	7	Greek	1
Greek	39	Latin	3
Latin	48	German	12
German	31	French	7
French	18	History	0
History (Ancient)	27	Log. and Trig.	2
History (Modern)	3	Solid Geometry	1
Algebra	117	Algebra	7
Geometry	1	Physics	0
Plane Geometry	18	Astronomy	0
Physics	21	Meteorology	0
Chemistry	7		
Physiography	0		
Anatomy, etc.	0		
Harmony	1		
	338		33

At the June, 1905, meeting, the Committee on Admission Examinations made a tentative step in a new direction. Until then its policy had been to determine a candidate's admission or rejection at the time he presented himself for final examinations. Under this policy practically every candidate, both schoolmasters and candi-

dates had come to understand, who succeeded in passing examinations amounting to twenty points was admitted; he who passed in less was likely to be rejected unless there were extraordinary circumstances in his case. The practical results of this policy were, in the one case, the admission of a student whose heavy conditions impeded his College work (few boys once admitted are willing to give the summer to hard work for the removal of conditions); in the other, the imposition of too heavy a burden of summer work upon the candidate who, trying again for admission in September, was required to abandon the entire results of his June examinations. In view of these two sorts of cases the Committee made a very small experiment: eleven candidates, "line cases," were told that they would be admitted if they passed in a sufficient number of additional points in September. By this was meant that they should try by September examinations, either in subjects in which they had failed or in new subjects (in almost every case the former), to secure the twenty-six points necessary for admission without conditions. Ten of the eleven presented themselves for examination in September, improved their records, and were admitted,—the better prepared successfully to carry on their College work.

The following table shows the number and the results of examinations taken over by the ten students referred to in the preceding paragraph and by postponing candidates who took advantage of the new rule, first operative in 1905, whereby, with the permission of the Dean, a postponing candidate may under certain circumstances take over in September examinations in which he failed in June:—

ELEMENTARY.

	Failed.	Passed.	Total.
English	2	5	7
Latin	4	12	16
German	2	5	7
French	2	10	12
Ancient History	1	6	7
Modern History	0	2	2
Algebra	5	6	11
Plane Geometry	4	*11	15
Geometry	1	0	1
Physics	4	5	9
Chemistry	1	1	2

* One took Geometry in June.

ADVANCED.

Greek	0	2	2
Latin	4	14	18
German	3	2	5
French	6	8	14
History	3	1	4
Logarithms	1	0	1
Algebra	2	2	4
Solid Geometry	1	1	2
	46	98	139

The number of postponing candidates who availed themselves of the new provision was not large, probably because comparatively few had noticed the change imbedded in the great amount of detail that complicates the rules governing admission; but if from an experiment with so few of its members a class can enter College with ninety-three less conditions than under the old rules, the question whether the time has not come for a thorough revision of our rules, whereby they shall be made simpler and more flexible, is certainly pertinent. The steadily increasing number of requests from teachers for exceptions to the rules is but another argument to the same point.

In June, 1904, Harvard became a member of the College Entrance Examination Board, and the Committee on Admission Examinations was "authorized to use its discretion in accepting the examinations of the College Entrance Examination Board in place of a part of the Harvard examinations for admission." It was, however, understood that the Harvard examiners should read and grade anew all of the books submitted.

After the Departments had been consulted by the Committee, a circular was issued to the schools announcing that Board examinations might be substituted for Harvard examinations in the following subjects: Elementary — English, Greek, German, French, Ancient History, Physics; Advanced — French and History. This list, maimed as it was, nevertheless served a few boys, and the addition of Elementary Latin and Mathematics for 1906 will greatly increase its efficiency; but not until Harvard accepts freely the Board examinations can the College and the Scientific School profit from them as they ought. The Board is a conservative body, the most effective union between the colleges and the secondary schools that has yet been devised. Its requirements are based upon the recommendations

CLASS.	NAME.	SCHOLARSHIP.	HOMES.	SCHOOL.
'08	Samuel Lionel Abrahams	Bowditch	Cambridge	Roxbury Latin School.
'06	Herbert Percy Arnold	Price Greenleaf	Quincy	Quincy High School.
'07	Irving Widmer Bailey	Price Greenleaf	Cambridge	Cambridge Latin School.
'07	Alfred Longfellow Benshimol	Price Greenleaf	Dorchester	Boston Latin School.
'08	Francis Augustus Bonner	Bowditch	Chicago, Ill.	Lake View High School, Chicago, Ill.
'06	Philip Sheridan Campbell	John Harvard	Brooklyn, N.Y.	Central High School, St. Paul, Minn.
'06	Edgar Thomas Clements	Hollis	Nutley, N.J.	Newark Academy, Newark, N.J.
'07	Harvard Hersey Crabtree	Ruluff Sterling Choate	Hancock, Me.	Higgins Classical Institute, Charleston,
'08	David Campbell Eipper	Bowditch	Kingston, Pa.	Wyoming Seminary, Kingston, Pa. [Me.
'07	Griffith Conrad Evans	Levina Hoar	Dorchester	Boston English High School.
'08	Isaac Blair Evans	Bowditch	Ogden, Utah	High School, Ogden, Utah.
'07	Paul Southard Fiske	Price Greenleaf	West Medford	Medford High School.
'07	Rufus Coffin Folsom	John Harvard	Dorchester	Boston Latin School.
'07	Seth Thomas Gano	Price Greenleaf	Milford, N.Y.	State Normal School, Oneonta, N.Y.
'07	Isaac Gerber	Bowditch	Boston	Boston English High School.
'06	Monroe C Gutman	John Harvard	New York, N.Y.	Sachs Collegiate School, New York,
'07	Hermann Hagedorn, Jr.	John Harvard	New York, N.Y.	The Hill School, Pottstown, Pa. [N.Y.
'06	Homer Howells Harbour	Class of 1856	Dorchester	Boston Latin School.
'07	Clarence Henry Haring	Price Greenleaf	Philadelphia, Pa.	Central High School, Philadelphia, Pa.
'07	Gorham Waller Harris	John Harvard	Somerville	Somerville Latin High School.
'07	Harvey Cornelius Hayes	Price Greenleaf	Oneonta, N.Y.	State Normal School, Oneonta, N.Y.
'06	Arthur Norman Holcombe	Class of 1856	Winchester	Winchester High School.
'07	David Heath Howie	Price Greenleaf	Hopedale	Worcester Academy.

'08	Henry Hurwitz	Farrar	Worcester	Gloucester High School.
'08	Samuel Hymen Hurwitz	Bowditch	Chicago, Ill.	West Division High School, Chicago, [Ill.]
'08	Dunham Jackson	Jacob Wendell	Bridgewater	Bridgewater High School.
'07	Francis Walker Johnson	Bowditch	Lynn	Lynn Classical School.
'06	Theodore Francis Jones	Charles Wyman	Allaton	Boston Latin School.
'08	Jacob Joseph Kaplan	Bowditch	Boston	Boston English High School.
'07	Frederick Henry Lahee	Bowditch	Cambridge	Brookline High School.
'07	Harry Wheatland Litchfield	Saltonstall	North Pembroke	Rockland High School.
'07	Samuel Hart Newhall	William Samuel Eliot	West Lynn	Lynn Classical School.
'07	Charles Eliot Nichols	John Harvard	Somerville	Somerville Latin High School.
'06	John Robert Nichols	John Harvard	Somerville	Somerville Latin High School.
'07	Frank Conrad Nieweg	Price Greenleaf	Oxford, Pa.	State Normal, West Chester, Pa.
'06	Milton Percival	John Harvard	Ann Arbor, Mich.	University of Michigan, Ann Arbor, [Mich.]
'06	John Wallace Plaisted, 2d.	John Harvard	Worcester	Worcester Classical School.
'07	Walter Hilprin Pollak	Bowditch	New York, N.Y.	Columbia College, New York, N.Y.
'07	David Rines	Warren H. Cudworth	East Boston	East Boston High School.
'07	Will Carson Ryan	Bowditch	New York, N.Y.	Morris High School, New York, N.Y.
'07	Isaiah Leo Sharfman	Bowditch	Roxbury	Boston Latin School.
'08	Randolph Norris Shreve	Bigelow	Ferguson, Mo.	Miss Cornelia Coulter, Ferguson, Mo.
'06	Albert Cliff Sproul	Bowditch	Roxbury	Roxbury High School.
'07	Paul Russell Temple	Price Greenleaf	Athol	Athol High School.
'06	Ralph Edson Tibbetts	John Harvard	Albion, N.Y.	New York University, New York, N.Y.
'06	Otis Johnson Todd	Richard Augustine Gambrill	} Blooming Valley, Pa.	{ A.M. Chesbrough Seminary, North Chili, N.Y.
'06	Frank Charles Wheeler	Palfrey Exhibition		
'06	Herbert Eustis Winlock	Class of 1802	Newport, Vt.	Somerville Latin High School.
		John Harvard	Washington, D.C.	Western High School, Washington, D.C.

of expert and learned bodies, and are not hastily or thoughtlessly amended; its examinations are conducted with "dignity and security"; the reading and the grading of the books are administered with care. To accept the Board examinations freely would relieve Harvard of the considerable expense of maintaining examinations outside of Cambridge. Finally, the great number of places at which the Board examinations are held gives it an opportunity to reach the youth of the country such as no single college can hope to attain. By accepting its examinations Harvard can make its instruction accessible to boys in the most remote parts of the country who otherwise would never think of taking the long journey to reach a place where Harvard conducts its own examinations.

It seems highly desirable, therefore, that the Departments should, if necessary, in view of the manifest advantages to be obtained, make some concessions of individual preferences. To insist upon a requirement different in details from that of any other college, involving in schools the institution of a special class for "those preparing for Harvard," impedes not only the school but also the College. The chief object of admission examinations is not so much to ascertain whether every detail of a minutely outlined course of studies has been covered as to determine whether a candidate is sufficiently developed intellectually to undertake successfully the work of the College.

The members of the Administrative Board for the year were Professors Willson, C. P. Parker, Gardiner, Coolidge, Hurlbut, Johnson, Ward, Gulick, Palache, C. H. C. Wright, Woodworth; Messrs. Cram, Hart, Whittemore, and Lyman.

During the year two students were dismissed for deliberate cheating and lying, and four were suspended, two (one was subsequently allowed to withdraw) for taking unauthorized vacations, and two for handing in written work not their own. The Board closed the probation of twenty-five students, all of whom had unsatisfactory records both of attendance and of scholarship and had been warned, most of them repeatedly, both by the Recorder and by the Dean. In the cases of four, other matters of minor College discipline were involved.

The number of scholars who won a position in the First Group on the work of the year 1904-05 was forty-eight, of whom thirty-seven held stipendiary scholarships, and eleven, honorary.

Shortly after the beginning of the year the Board adopted the definite policy of requiring every student to maintain throughout the year a satisfactory record in his studies, meaning by "satisfactory"

such grades at the November, the mid-year, and the April examinations as, had they been final, would have won him promotion. Every student whose record fell below this very moderate standard was treated (unless there were exceptional circumstances in the case), so far as possible, as he would have been at the end of the year: he was not, of course, dropped to a lower class, but he was placed on probation. This action naturally resulted in a much freer use of probation than heretofore, and many exaggerated reports of the number of students on probation were in circulation. As the Board adopted the natural corollary of its position, — that a student should be restored to regular standing as soon as his record warranted this, — the number of students on probation was constantly shifting as the returns from instructors enabled the Board to consider completed records. Accurate figures of the exact time when the proportion of students on probation was highest cannot be secured without an unwarranted expenditure of clerical labor, but from figures submitted by the Recorder, the best judge in this matter, the percentage of Freshmen did not at the highest exceed twenty-three, while in the whole four classes it was not above fourteen.

The logical and just position of the Board met with opposition, — much from students with low records, some from the less thoughtful parents, both of whom maintained that the “punishment” was too severe. It is true that “probation means serious danger of separation from College,” but it is equally true that it leaves the decision of the question wholly in the hands of the student: it is his chance to prove his right to keep his connection with the College. By forbidding such a student to represent his College or his class, or to take part in public performances or contests, the rule requires him to put his studies ahead of all other interests. It is the opposite of this, — the subordination of studies to athletics, work on college papers, theatricals, club life, even philanthropic and religious interests — these and many other avocations, all excellent and becoming if only properly adjusted to the great purpose of the College, — that keeps the Recorder's and the Dean's offices busy. For many years the general understanding of the Faculty has been that an instructor may demand from the student two hours of preparation for every hour of class-room work, or, generally speaking, nine hours a week per course in lectures or recitations and preparation outside the class-room. A student, therefore, electing the prescribed number of courses should work between six and seven hours a day. Last year a large number of students summoned to the office for unsatisfactory records were questioned in regard to the amount of

time they spent on their courses. Naturally, under the circumstances, they were not likely to underestimate this. All spoke with admirable frankness. Their answers uniformly supported the conclusion of the Committee on Improving Instruction. The replies to the question, "Do you work on an average seven hours a day?" may all be summed up in the answer of a single Freshman, "No; nobody that I know of works seven hours a day"; — and the comment of a Senior on this answer, "I am sorry that he said it, but I think he told the truth about us." Seven hours a day for the serious business of college are not too many to ask of healthy young men, able to pass the admission examinations; yet a considerable number of students feel, or rather maintain, that they are "really working hard" if during the weeks of lectures and recitations they give on an average four or five hours a day to college engagements and to study. To hold such men, therefore, to regularity in attendance and the maintenance of "promotion rank" is the plain duty of any governing board.

On the other hand, to give to serious students doing good work every encouragement and all freedom consistent "with the collective interests of the classes or sections to which they belong" is even more to be desired. Toward this end the Faculty made great progress when it adopted the new requirements for a degree with distinction (the first draft of these considered by the Faculty was printed last year in the report of the Dean of the Faculty) which, in 1908, go wholly into effect as the only method of obtaining such a degree. The purpose of the new rules is best stated in the preface to them prepared by the Committee: —

NEW RULES.

"It is the object of the new arrangement to lead the undergraduate to feel that under the elective system he has the great opportunity of doing in College at least some one piece of advanced work with such thoughtfulness, such careful study, and such attention to detail that the training thus gained will be of benefit to him whatever may be the nature of his later pursuits in life. In the opinion of the Faculty every undergraduate of superior ability should look to a considerable amount of advanced work in some subject or related subjects as a natural part of his undergraduate career.

"Yet it is not to be imagined that the Faculty intends to call for anything like original research on the part of undergraduates, or for the passing of examinations similar to those required for the higher degrees. . Nothing is intended which should put the degree with distinction out of the reach of a student of good ability. In fact, it will be seen that under the new arrangement the degree *cum laude*

(but not *magna cum laude*) may still be obtained on general studies, though the courses which the candidate takes may no longer be wholly elementary.

"Candidates for the degree with distinction in a subject or related subjects may obtain, at an early stage, the advice of the appropriate Division, Department, or Committee, so that their courses may be chosen and their work carried on in accordance with a definite educational plan. The degree *cum laude* or *magna cum laude* will be given to such candidates according to the excellence of their performance. Finally, it is provided that candidates for this degree may record themselves at the office of the Dean of Harvard College, who will thereafter trust them with greater responsibility and discretion in the ordering of their College work.

"A Commencement Part is assigned to every student recommended for a degree with distinction: an Oration to a candidate for a degree *summa cum laude*, a Dissertation to a candidate for a degree *magna cum laude*, and a Disquisition to a candidate for a degree *cum laude*. The words *Oration*, *Dissertation*, and *Disquisition* indicate merely the grade of distinction in the degree, and do not imply differences in the nature of the Commencement Parts.

VOTES OF THE FACULTY OF ARTS AND SCIENCES.

"1. The Degree of Bachelor of Arts with Distinction is awarded in two grades, *cum laude* and *magna cum laude*.*

"2. *Cum laude* on General Studies. A candidate is recommended for the degree *cum laude* who has obtained grade A or B in nine elective courses, but courses regularly open to Freshmen count for this purpose only as half-courses. He must have obtained a grade above D in at least two-thirds of his remaining work, that being the standard now required for the degree without distinction.

"3. *Cum laude* on a Subject or Related Subjects. A candidate is recommended for the degree *cum laude* who has completed a considerable amount of advanced work in some subject or related subjects, and who has been recommended on the ground of this work to the Faculty by a Division or a Department, or by a Special Committee† appointed by the Faculty for this purpose. He must have obtained a grade above D in at least two-thirds of his remaining work, that being the standard now required for the degree without distinction.

"4. *Magna cum laude*. A candidate otherwise qualified for the degree *cum laude* on a subject or related subjects is recommended for the degree *magna cum laude* who has been recommended to the Faculty for this degree by a Division or a Department or by a Special Committee on the ground of high distinction.

"5. The subject or related subjects in which the degrees *cum*

* * It is understood that nothing in these votes shall prevent the award of a degree *summa cum laude* in an extraordinary case.

† E. g., the Committee on Honors in Literature, which will recommend a candidate on studies in related subjects."

laude and *magna cum laude* are conferred under sections 3 and 4 will be mentioned in the diploma and on the Commencement Programme.

"6. A candidate who fails to obtain the degree with distinction in a subject or related subjects may nevertheless receive the degree without distinction on the recommendation of the Division, Department, or Committee concerned.

"7. A student intending to become a candidate for a degree with distinction on a subject or related subjects will record his name at the office of the Dean of Harvard College. This he may do as early as the beginning of his Sophomore year, or at any time not later than November 1st of the academic year in which he expects to receive the degree; but a Division, Department, or Special Committee may fix as the latest date in its own case a time earlier than November 1st of that year.

"8. A student who records himself as intending to become a candidate for the degree with distinction on a subject or related subjects is entitled to have his name placed upon a List at the beginning of his Sophomore year, providing he has not fallen below C during his Freshman year, or at any later time when he has satisfied the Dean of Harvard College that he is fit to have his name placed upon the List; and any student who has been in one of the first two groups of scholarship holders during any year is entitled to have his name placed upon the List during the succeeding year. The name of any student may be withdrawn from the List at any time on recommendation of the Department under which he is working, or by the Dean after consultation with that Department, if the student fails to obtain or maintain after being entered on the List a standard of scholarship and conduct satisfactory to the Dean.

"9. Students whose names are on the List will, except for registration, be trusted by the Dean with greater responsibility and discretion in the ordering of their College work, so far as this does not interfere with the collective interests of the classes or sections to which they belong, and will be excused during their last year in College from examinations in courses belonging to their subject or related subjects, in case the Division or Department under which they are working has provided some other public test than those examinations as the ground for its recommendation."

From these extracts three great advantages of the new plan over the old are at once apparent. In the first place, a student who has had "a very foolish Freshman year" may still, by turning squarely about, retrieve himself and win distinction, — a few unsatisfactory grades in the courses counted for his degree no longer cut him off from this: under the old plan there was little chance for him. In the second place, students are invited to do serious intellectual work during the summer vacation, a time given up by far too many simply to amusement. In the third place, the new plan proposes a more

careful adjustment of courses,—greater unity in the college course,—for even the degree *cum laude* on General Studies distinctly encourages a student to carry his work beyond the merely elementary courses of a particular subject. Encouragement in these three directions is of incalculable benefit.

B. S. HURLBUT, *Dean*.

THE LAWRENCE SCIENTIFIC SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—As Dean of the Lawrence Scientific School I submit to you the following report for the academic year 1904–05.

The number of students registered in the School during this and the immediately preceding academic year, their distribution in classes, as well as the numbers registered for the admission examinations, are set forth in the following tables:—

REGISTRATION BY CLASSES.

Class.	1903-04.	1904-05.
Fifth-Year . . . . .	..	1
Fourth-Year	85	92
Third-Year	80	66
Second-Year	149	188
First-Year	114	105
Specials	120	128
Totals	548	580

SPECIAL STUDENTS.

Number of years in attendance.	1903-04.	1904-05.
One	70	79
Two	41	33
Three	9	13
Four . . . . .	..	8
Totals	120	128

REGISTRATION FOR ADMISSION EXAMINATIONS.

Year.	Preliminary.	Final.	Total.
1904	111	172	283
1905	98	215	313

DISTRIBUTION OF STUDENTS IN FOUR-YEAR PROGRAMMES.

Programme.	1903-04.	1904-05.
Civil Engineering	72	68
Mechanical Engineering	56	57
Electrical Engineering	74	84
Mining and Metallurgy	68	67
Architecture	40	44
Landscape Architecture	16	15
Forestry	7	8
Chemistry	23	24
Geology	4	5
Biology	14	11
Anatomy and Physiology	35	26
Teachers of Science	13	23
General Science	126	98
Totals	548	580

From these tables it will be seen that there has been a decrease of eighteen in the total number of students registered in the School, as compared with the number registered in the previous year. This loss is more than accounted for by the fact that there was a diminution of twenty-eight in the number enrolled in the programme known as General Science. It was expected that with the recent increase in the requirements for entrance this programme would no longer prove attractive, as students could obtain the same training by entering the College, where the degree may be obtained with about one-fifth less work and with freedom of election of studies. In 1902, when the studies required for entrance to the School were made equal in weight to those of the College, the number enrolled in General Science was 141; in the Catalogue of the academic year 1905-06 the number is 66. At this rate of decrease this group of students is evidently soon to disappear. The other programmes of the School,—those leading towards the several more or less professional employments in applied science,—have as a whole made a slight gain, which appears to indicate that the effect of the increase of the admission subjects has been overcome.

During and since the increase in the attendance in the last decade those in charge of the School have been much concerned by the money needs of its students. In much larger proportion than in the other parts of the University these young men need help. The greater part of them come from families which can ill afford to support a son in college, and do so with great difficulty. Probably about one-third of those now in the School need and deserve some measure of help in order that they may not be ill-fed or insufficiently lodged. As the provision in the way of scholarships is small, there being but 19 in the academic year 1904-05, an arrangement has been made for a system of loans, which, though it has been essayed only for about ten years, has already proved an effective means of help. The work was begun in a small experimental way, with the purpose of ascertaining how far money loaned on the expectation of the success in life of promising youths would be repaid by them. The allotments have been made after a careful personal study of each case, and in sums ranging from a few dollars up to two hundred per annum. No interest has been charged while the student was a member of the School; after that the rate has been four per cent. per annum. The only security has been the written promise of the recipient that he will repay before a certain date, usually some years after graduation. The results of this experiment are roughly exhibited in the following tables:—

Loans outstanding, <i>past due</i> , about	\$6650.00
Loans <i>not yet due</i> , but men now out of the School, <i>about</i> . .	6950.00
Loans <i>not yet due</i> , to men now in the School, but prior to the current year, <i>about</i>	6175.00
Loans made this year — since September, 1906,	2200.50

Loans made during year 1902-03	\$3932.28
Loans made during year 1903-04	4162.16
Loans made during year 1904-05	3930.84
Loans made during current year, 1905-06	2200.50

Amount of loans repaid <i>prior</i> to 1902-03	\$2185.47
Amount of loans repaid during 1902-03	2367.66
Amount of loans repaid during 1903-04	1411.37
Amount of loans repaid during 1904-05	2580.47

It should be observed that more than three-quarters of these loans have been made within the last five years, so that by far the greater part of the money not repaid is not yet due. So far as it has gone, the experiment shows that it is safe to reckon on the reasonably prompt repayment of the greater part of the money thus loaned. The bad debts are due only in small measure to a lack of honesty on the part of the recipient. They seem to be attributable mainly to deaths, or, in seldom cases, to the failure of what were judged to be youths of promise to fulfil the expectations of their future.

As the number of persons who have received loans amounts to at least five hundred, this experiment appears to rest upon a sufficient foundation to warrant confidence in the future of the project. In the opinion of those who have so far administered the work, its success depends upon maintaining the conditions under which the loans have so far been made. These conditions are as follows:—

The grants are made only to those who are deemed promising subjects for such investments. In a few instances they have been made to men about to enter the School, but only where there is good reason to believe that they are worthy of help. When possible, the needs of the families whence the applicants come are ascertained. The career of the graduates who have received loans is followed, and letters are written to such of them as fail to repay at the appointed time. Such letters are usually effective.

The advantage of this system over that by which students are aided through scholarships or other direct gifts of money is obvious. A loan made on the expectation of a youth's success in a professional career, and his promise to repay on or before a definite time, so far from tending to weaken his self-respect, gives him confidence

in his value. While he, of course, sees that it is not an ordinary business transaction, for pecuniary gain is not the object of the lender, the sense that he is chosen, because of a belief that he will win his way and be faithful to his obligation, is evidently most helpful to him.

As is readily seen, this method of helping youths has the peculiar advantage over scholarships that the money thus invested somewhat rapidly increases, through its return to the lender. While in the history of the School there has been but one instance of a repayment of advances in the form of scholarships, more than one-half of that loaned as above described has already been returned, and the repayment of at least three-quarters may be, with reasonable confidence, reckoned on. Without any other contributions to this so-called Loan Fund, it may be expected, with proper management, to be doubled within twenty years. This administration, to be successful, must continue the personal quality of its management, and retain the features of fairly close inquiry into the needs of the borrower, as well as the plan of insisting on repayment when the advances become due.

The discipline of the School appears to be in a satisfactory condition. During the year one hundred and fifty-three students were placed on probation for inadequate performance of duty. One was for this reason suspended from the School. Two were punished for handing in written work not their own, and of these one was dismissed, since it was not his first offence. As for other ordinary vices, they have practically disappeared. There has been but one case of drunkenness, gambling, or sexual vice to deal with in the past two years. It is evident that this is in no sense due to a lack of watchfulness on the part of the proctors and other officers. It seems to mark a change in the temper of our youths.

N. S. SHALER, *Dean*.

ATHLETIC SPORTS.

TO THE PRESIDENT OF THE UNIVERSITY: —

SIR,—I have the honor of submitting to you a report for the academic year 1904-05 on the work of the Committee on the Regulation of Athletic Sports.

The Committee held its first meeting and was constituted in June, 1904. Professor H. S. White was elected Chairman, and as such exercised supervision over athletic matters throughout the summer, but Professor I. N. Hollis has continued, by request, to take charge of the improvement of Soldier's Field. In the autumn, Professor White was suddenly called to Europe on leave of absence. As it was then his expectation to come back by the middle of the year, he did not immediately resign his chairmanship, but did so later, and Assistant Professor A. C. Coolidge, who had been acting in his place, was chosen as his successor. A vacancy in the Committee, caused by the resignation in April of Mr. T. N. Perkins, was filled by the appointment of Mr. R. F. Herrick. As Mr. Roger Ernst did not wish to continue as Graduate Treasurer after this season, Mr. H. S. Thompson was appointed for 1905-06.

During the past academic year the work of improving our athletic grounds has continued steadily, if rather slowly. On Soldier's Field a temporary wooden fence has been erected on the open side, along the line of the future street, so that the Field is now completely enclosed. The filling in of the marsh and the adding to the land actually available for athletic purposes is proceeding, though not as fast as might be wished, for we continually need more room in order that all students who are anxious to may have an opportunity to take part in out-door sports. The Committee feel that it is most desirable to satisfy this want as liberally as possible, but the filling in, grading, and planting with grass, of each fresh bit of the marsh land, usually takes at least two years to do satisfactorily, and we are even more hampered by the many calls on our funds. The work on the Stadium has had to come to a standstill for the time being, and is not likely to be taken up again, until the present debt has been paid off. This pause, however necessary, is to be regretted, as the completion of the structure (by the erection of the proposed

colonnade) would much improve its appearance. On Holmes Field four more tennis courts have been prepared to meet the increasing demand.

One of the most important events in our last athletic year has been the renewal of the dual agreement with Yale. This agreement has worked very satisfactorily. Under its provisions there has been little room for misunderstanding, and the athletic relations between the two universities have been excellent. It was felt however, at Harvard, that certain slight additions, already incorporated in our own rules, were desirable, and these modifications Yale readily and courteously accepted, after a conference held in New Haven between representatives of the two athletic committees. One of these changes is a regulation that the student who has played on a so-called summer nine must prove to his committee, before being allowed to take part in college sports, that he has not received any compensation for his services. The whole question of summer nines is one of peculiar difficulties, which have not yet been satisfactorily met. A second and more important change is that which provides that in cases of trivial and technical infringement of the rules of eligibility, occurring before a boy goes to college, he may be restored to standing by the athletic committee. Notice of this decision shall be sent to the committee of the other university, and in case they find reason to object, the case shall be referred to the arbitrators of athletics in New York. This provision appears to have been misconstrued in certain quarters. It was not at all the intention of either university to lower the standard of the rules concerning eligibility and to "whitewash" offenders, as has been charged. The purpose was merely to meet cases where the application of these rules to the letter was absurd if not impossible, and at any rate entailed great hardship. Under a literal interpretation, not only at Harvard and Yale, but throughout the country, a boy who has been rewarded with five cents by his father, for beating his brother in a race to the garden gate, has thereby become a "professional" in all branches of competitive athletics for the rest of his life. Last autumn a member of the Harvard Freshman Class was refused permission to go down to New Haven on his foot-ball team because, as he voluntarily reported, he had received one dollar as a prize in some school sports seven years earlier. It is evident that such absurd instances are not only unjust to the sufferers themselves, but also must tend to stultify the rules, and to make men conceal facts which, in honesty, they ought to reveal. There is, too, no reason to fear that the new provision agreed to between Harvard and Yale will lead to abuse.

During the last year certain slight changes have been made in our own athletic regulations. The discretionary power of the Chairman has been extended in theory more nearly to what it is in fact, for it has been found that he has to give, at least temporarily, immediate decisions on matters which nominally require a vote of the whole Committee. But few additions have been made to the rules, — indeed it would be well if they could be rendered simpler, instead of more complex, as it is hard enough already to get the undergraduates to familiarize themselves with them. Still, the growing complexity of everything connected with athletics makes fresh regulations perhaps inevitable. The system of paying bills for board at the training-tables has suffered from great abuses. It has in many cases been found difficult, if not impossible, to collect such bills after the season has once ended, and in numerous instances the sum charged to the student for his share of the expense of his food, which was supposed to be what he usually would have paid elsewhere, has in reality been considerably below that amount. The Committee hope that they have taken sufficient measures to check further dishonesty of this kind.

Dishonesty and sharp practice in the sports themselves can only be eradicated with the aid of enlightened public opinion, especially among those who have the interests of athletics really at heart. There is no reason why illegal coaching from the side lines should be tolerated among gentlemen any more than cheating at cards, for there is no difference between them in principle. The fact that it would be quite unfair to judge individual cases of them with the same severity at the present day, merely shows how low, in some respects, is the conventional standard of athletic morality, however high it may be in others. Although a sweeping charge would be quite impossible to prove, it may be doubted whether many prominent foot-ball teams in recent years would have been willing to repeat to the world absolutely the whole of the instructions imparted to their members.

Two difficult questions of general policy have recently called for long and careful consideration on the part of the Committee. The first of these relates to the proper disposition of our financial resources. The second is that of the advisability of employing paid professional coaches. Owing to the large sums of money brought in by the ever-growing attendance at the foot-ball games, there was an impressive annual surplus in the athletic accounts for a number of years. This surplus has not unnaturally had a demoralizing effect. Expenses have shown a marked tendency to get larger in almost every branch of sport, and the demands for assistance at the hands

of the Committee have become even more numerous and pressing. To be sure, new sports have come into existence; three during the past year alone, — jiu-jitsu, hand-ball, and association foot-ball. This last tendency in itself is a thing to be encouraged, for the greater the diversity in the sports, the larger will be the number of students who can actually take part in them; though whether every new team should be at once allowed to join an intercollegiate league, and be granted the necessary absences from Cambridge, is another question. Still, it was not only the new teams that needed aid; others which had before got along without any, now appealed for it, and each individual request was usually reasonable enough. Thus, the subsidies granted by the Committee, in a rather haphazard manner, went on increasing till 1904, when the change in our financial situation, owing to the cost of the Stadium, helped to make clear that the time had come for a more carefully considered policy than had heretofore been followed. As a result the Committee adopted the principle that leaving out of consideration foot-ball and baseball, as self-supporting, all other sports should be maintained, at least in part, by subscriptions among the students. In the case of the crew and the track team, where the expenses came to several thousands of dollars, it was decided that only the smaller portion of the necessary funds need be furnished by the undergraduates themselves, but in the so-called minor sports, whose cost never should be large, no contribution was to be made from the general funds except for "permanent equipment," which term has been very liberally interpreted in practice. The Committee felt that if it were impossible to obtain from the students the trifling sum necessary for the maintenance of any one of the minor teams, it was proof that no pressing demand for that kind of sport existed. This decision has provoked violent criticism. In particular the Committee were charged with legislating against the minor sports, in spite of the fact that the amounts still to be raised for the crew and the track team are considerably larger than for anything else. It is, of course, not to be wondered at that the students prefer to have the expenses of their games paid from a general fund due to gate money, rather than that they themselves should bear any burden, no matter how much smaller it may be than what appeared natural a few years ago. They are, therefore, unwilling to subscribe, and are inclined to resent it when such a call is made upon them, all of which has borne hard on the managers who have to raise the money. However, while recognizing that complaints under these circumstances are to be expected, the Committee have adhered to their belief in the wisdom of their action. They are

of the opinion that the tendency to apply for assistance to the general funds, whenever money is needed, is demoralizing in itself, and that the present subscriptions, which are far lighter per man than they were in the recent past, cannot be called a serious burden on the undergraduate body. The necessity for paying off, as soon as well may be, the debt on the Stadium, enforces economy in the management of our finances, but even if no such necessity existed there is serious danger in a policy of subsidizing every form of athletic amusement that appeals to a larger or smaller number of enthusiasts. Such a system encourages extravagance and weakens the sense of responsibility. The idea that a sport should be as nearly as possible supported by those who care for it is of moral value in itself. Our accumulated surplus of former years has disappeared, and one may well doubt whether it should ever be reconstituted. The Committee believe that when, years hence, our debts have been paid, the Stadium is finished, the Soldier's Field has been extended, and other pressing needs have been met, if then we are once more called upon to face the probability of an imposing balance in our favor, the time will have come, not to distribute gratuities right and left, but to reduce our huge gate receipts by cutting down the price of admission to our games.

Although there is nothing new in the employment of professional coaches at Harvard, it has always been held here that such employment is as a rule undesirable, and should be restricted within narrow limits. Until the last season amateur coaching has prevailed, in the main, in three of the four most important sports as well as in almost all of the smaller ones. This is no longer the case, and yet there has been no change in the sentiment of the Committee. The question bristles with difficulties of all kinds. It should be remembered in the first place that the employment of professional coaches has not necessarily anything to do with the spirit in athletics known as "professionalism," although there is an obvious danger in that direction. Likewise, it should be kept in mind that professional instruction is almost indispensable in certain branches of athletics, and that any line drawn between them appears arbitrary. We assume, nearly as a matter of course, that a student should learn fencing or boxing from a paid professional teacher. It seems, too, not only proper but desirable that a boy who has never been on the water should get the first rudiments of rowing from a professional expert. Why in the nature of things should not base-ball and foot-ball be taught in like manner? And if the fencing teacher trains his pupil for a contest, why should not a rowing expert be paid to do the same? Even

if we feel that distinctions of some sort can be drawn, it is very hard to put them into practice, and still harder to convince of their justice those whose chances of victory are diminished by them. The Harvard Athletic Committee have believed, and still believe, not that there is anything bad in itself in a student's taking athletic lessons from a regular teacher, nor that the teacher's influence is necessarily an unfortunate one, but they hold strongly that winning is not the only, or even the chief object of sport, and that the spirit of the best kind of amateur — that of sport for sport's sake — inevitably suffers under a system where each team is made up of the obedient tools of a highly paid professional. Under such a system, contests tend to degenerate into the triumph of this or that coach. The Committee are also convinced that the paying of great sums of money to men who instruct our youths in what should be not their work but their play, tends to vitiate the opinion not only of the student body, but of the whole community, as to what is of real importance in a college training and in the education of a young man. At the same time neither Harvard nor any other institution is in a position, as yet, to grapple boldly with the evil. If we are to let our undergraduates take part at all in intercollegiate contests, we cannot expect them to do so under conditions of what seem to them hopeless inferiority. Nor can we persuade a base-ball or foot-ball player that what is permissible for the crew or track team is an evil thing by which he must, under no circumstances, be allowed to profit. The question of when, how, and where to draw the line in these matters is not to be lightly answered, and the solutions arrived at to-day may soon prove to be unsatisfactory.

At Harvard the situation in regard to the four principal branches of sport was as follows at the beginning of last term: The track team, like its rivals in other colleges, had always had the services of a professional trainer, and had enjoyed a fair proportion of victories. The base-ball team, which for a number of years had been generally successful, had had no professional coaching, except for a few weeks in the spring in pitching, batting, and base-running. The foot-ball team, although it had an amateur head coach, had for some time past employed a paid former player to teach certain special points, and even the head coach for the coming year was to receive money sufficient to make good losses which he incurred by devoting himself to his task. As regards rowing, although at each boat-house there was a trainer in the principles, who also prepared men for the inter-club races, still the University and Freshman crews had always had nothing but amateur coaching from graduates, with the exception of

the previous season when a coach from outside had been paid a salary sufficient to compensate him for his loss of time and money. The record of the crew, like that of the foot-ball eleven, had been one of almost uniform ill success, and there was a strong desire for a radical change of system.

The question came up first in connection with the crew. Another disastrous defeat at New London had deepened the conviction among rowing men, graduate and undergraduate, that something decisive must be done. Yale had openly adopted the policy of a professional coach for her crew, and declared that she was perfectly satisfied with the result. In answer to the arguments in favor of an amateur, she could always reply that it was comparatively easy for Harvard to get graduate assistance from the neighboring town of Boston, but New Haven was too far away from any great city for a similar arrangement to be possible at Yale. On our side, it seemed the time had now come when we could no longer ask our students to go through the long and severe training requisite for the University crew, in order to meet what they would regard as almost certain defeat. The only alternatives were either to send an ultimatum to Yale, which might be difficult to justify and which might lead to our giving up intercollegiate rowing altogether — for all our other likely rivals have paid coaches — or to fall into line with the rest ourselves. This second course appeared to the Committee to be on the whole the wiser of the two as well as the fairer thing to our undergraduates. They therefore reluctantly consented to the request of the crew management for the appointment of a regular paid coach.

The foot-ball situation was likewise brought to a crisis by a severe defeat. Apparently the almost unanimous demand of the Harvard public interested in the subject was that the next year's team should be put under the charge of a certain graduate who, it was stated, was alone capable of ensuring a fair prospect of success. It so happened that the gentleman in question lived at a distance, and had a regular salaried position which he could not abandon, even temporarily, without a very considerable pecuniary sacrifice, such as he had no right to make without adequate compensation. It was necessary to offer him a large sum merely to make good the losses he would incur, — in fact, a salary greater than that of any professor of Harvard University. The Committee long hesitated. Unwilling as they were thus to add fresh importance to the overgrown game of foot-ball, the question remained: were they in duty bound to forbid the one means by which it was generally believed our foot-ball could be put on a more satisfactory footing, and that by one of our

own graduates? They recognized that there is no inherent reason why foot-ball should not be allowed the same advantage as is already granted to other sports, and they did not think that an uncompromising attitude on their part on this occasion would particularly further a reform of the whole system of intercollegiate athletics. Here again they yielded, but though they had no criticism to make of the amount of the compensation as such, they determined, at least, to assert that they were unwilling to pay any athletic instructor so high a price. Accordingly, they offered only half of the money required, while agreeing to permit the graduates interested in foot-ball to make good the remainder. It is perhaps superfluous to add that this remainder was almost instantly guaranteed.

Although the Harvard Athletic Committee do not regret the decision which they arrived at in these two cases, they recognize that we are in great measure abandoning a standard we have always tried to maintain. It is also true that there is no particular prospect of improvement in the immediate future. Every year in athletics is an "exceptional" one, and aids accepted temporarily soon come to be looked upon as indispensable, if they lead to success. Other sports, down to the most insignificant, will demand that they too should have the most efficient instruction, and the cost of this instruction bids fair to increase steadily. Many of our graduates while opposed in theory, they say, to our employing professional coaches, proclaim that if we are going to have them, we must get the best, *i.e.*, the most expensive. This feeling, however, is not confined to Harvard; hence we may expect that under the keen competition for the services of the most fashionable teachers of this kind, their salaries will rise higher and higher. It is impossible to foresee the end of this or to predict when the reaction will come. Perhaps some day it may be found that the sole way to reform intercollegiate athletics is to change them root and branch, to dispense, not only with the services of hired professionals, but also with all outside assistance. If coaches as well as players had to be undergraduates, would not our students' games be more truly their own? Are skilful strategy and technical perfection more important than true sport?

ARCHIBALD CARY COOLIDGE, *Chairman.*

THE GRADUATE SCHOOL OF ARTS AND SCIENCES.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—As Dean of the Graduate School of Arts and Sciences I have the honor to submit my report upon the School for the academic year 1904–05.

The members of the Administrative Board were Professors Davis, G. F. Moore, Kittredge, Münsterberg, Sabine, Bôcher and Carver, and the Dean. The only new members were Professors Sabine and Carver. The Board lost two members of previous years, Professors Jackson and von Jagemann, to both of whom the School is greatly indebted for long and useful service; Professor Jackson had been a member of the Board from the organization of the School in 1890. The Board met only eight times in the course of the year; with the increased supervision given by Divisions to programmes for the degree of Master of Arts, the necessity of very frequent meetings of the Board has ceased.

In this Report the following topics are considered: first, the members of the School and their studies in general; secondly, the degrees for which recommendations were made at the close of the year and the holders of these degrees; thirdly, fellowships and scholarships; and, fourthly, miscellaneous topics.

STUDENTS.

The number of students registered in the School in 1904–05 was three hundred and ninety-five, a number exceeded only in 1903–04 and in the present year.

TABLE I. — NUMBER AND CLASSIFICATION OF STUDENTS.

	1902-03.	1903-04.	1904-05.
I. Resident Students doing full work in the School for the whole academic year . . .	216	289	273
Resident Students not doing full work or not working for the whole year as Resident Students	94	123	105
	— 310	— 412	— 378
Non-Resident Students holding fellowships .	15	14	15
Non-Resident Students not holding fellowships	0	1	2
	— 15	— 15	— 17

II. Students whose studies lay chiefly in *

i. Semitic Languages and History	1	2	2
ii. Ancient Languages (Classics and Sanskrit)	37	37	34
iii. Modern Languages (including Comparative Literature)	74	111	96
iv. History and Political Science	53	78	86
v. Philosophy (including Education)	50	64	52
vi. Fine Arts (including Architecture)	11	15	19
vii. Music	0	5	4
viii. Mathematics	22	21	14
ix. Engineering	5	9	3
x. Physics	12	14	14
xi. Chemistry	24	25	27
xii. Biology	19	19	20
xiii. Geology	12	20	14
xiv. Anthropology	2	0	5
Unclassed Students	4	7	5
	— 325	— 427	— 395

III. First-year Students	175	259	237
Second-year Students	88	89	92
Third-year Students	36	51	45
Fourth-year Students	13	18	18
Students in a fifth or later year	18	10	3
	— 325	— 427	— 395

IV. A.B.'s and S.B.'s of Harvard University and of no other institution	96	149	124
A.B.'s and S.B.'s (and holders of similar degrees) of other institutions and also of Harvard University	26	25	15
Students not holding the Harvard degree of A.B. or S.B.	203	253	256
	— 325	— 427	— 395

Students holding the Harvard degree of A.M., S.M., Ph.D., or S.D.	100	104	95
Students holding the Harvard degree of A.B. or S.B., but not of A.M., S.M., Ph.D., or S.D.	72	125	94
Students holding no Harvard degree in Arts, Philosophy, or Science	153	198	206
	— 325	— 427	— 395

Admission to the School is ordinarily granted to holders of the Bachelor's degree of colleges of good standing, and, by special vote, to a few other persons of maturity. Undergraduates of Harvard College, who have very nearly (within one course) completed the requirements of the degree of Bachelor of Arts, are also admitted to

* For detailed statistics as to the number of Graduate Students enrolled in the various courses of instruction offered by the Faculty of Arts and Sciences, see the Report of the Dean of that Faculty, pp. 63-90.

the School, but only as candidates for the Master's degree. The colleges and universities that were represented in the School in 1904-05 are named in Tables VI and IX.

Table I exhibits the usual classification of the students of the School, and is given for convenience of comparison for the three successive years 1902-03, 1903-04, 1904-05. My remarks on this table and on the following tables, which supplement it, have reference: first, to the members of the School in general and to the amount of work done by them; secondly, to their fields of study and to the distribution of their work among the courses of instruction offered by the Faculty; thirdly, to their length of residence; and, fourthly, to the extent to which the School draws its members from institutions other than Harvard University.

Of the three hundred and seventy-eight Resident Students, three hundred and thirty-four were in attendance throughout the whole year. Of this number, two hundred and seventy-three were doing either what is technically described as a full year of work (four courses or their equivalent) or a larger amount of work; sixty-one of those in residence throughout the year were doing partial work, that is, less than four courses; of the remaining forty-four Resident Students, thirty entered the School after November 1 (including eight Harvard College Seniors who had fulfilled the requirements for the Bachelor's degree at the close of the first half-year), and fourteen withdrew before the end of the year. The number of late registrations was larger, while that of withdrawals was much smaller, than usual.

In Table II are given the statistics for the last nineteen years of Resident Students doing full or partial work, and of Non-Resident Students, as well as of the whole number of students in the School for this period. The steady increase in the percentage of men who are devoting their entire time to their university work is a good sign. Of the whole number who were in residence throughout 1904-05, nearly four-fifths were doing full work.

The group of Non-Resident Students is composed, as usual, almost wholly of travelling fellows. The privilege of non-resident membership is strictly guarded. It is granted only to men who have previously been in residence at the University for a considerable period.

The second division of Table I indicates in general the fields of learning and science in which the work of the students lay. Although nearly every student concentrates his work, especially if he be a candidate for a degree, in some specialty, either of field or topic, and is therefore properly assigned to some one Department or Division,

TABLE II. — RESIDENT STUDENTS DOING FULL WORK, AND NON-RESIDENT STUDENTS: 1887-1905.

	1887-88	1888-89	1889-90	1890-91	1891-92	1892-93	1893-94	1894-95	1895-96	1896-97	1897-98	1898-99	1899-1900	1900-01	1901-02	1902-03	1903-04	1904-05
Resident Students doing full work in the School for the whole academic year . . .	38	50	62	62	108	127	163	161	175	194	171	218	227	226	218	216	289	273
Resident Students not doing full work or not working for the whole year as Resident Students	26	39	84	55	79	78	86	94	105	96	107	108	99	113	86	94	123	105
Whole number of Resident Students	64	89	96	117	187	200	248	255	280	290	278	321	326	339	304	310	412	378
Non-Resident Students holding fellowships .	10	9	11	11	9	9	10	12	13	14	15	12	13	14	11	15	14	15
Other Non-Resident Students	4	1	4	4	4	7	1	5	6	2	..	3	2	..	..	..	1	2
Whole number of Non-Resident Students . .	14	10	15	15	13	16	11	17	19	16	15	15	15	14	11	15	15	17
Whole number of students	78	99	111	132	200	216	259	272	299	306	293	336	341	353	315	325	427	395
Percentage of Resident Students doing full work for whole academic year	59	56	65	53	58	64	65	63	63	67	62	68	70	67	72	70	70	72

his work in many cases will fall in more than one of these subdivisions; hence the figures given in this table are regularly less than the number of men who actually take work in the Departments or Divisions in the list. Detailed information on the choice of studies of Graduate Students is given in the Report of the Dean of the Faculty of Arts and Sciences (see above, pp. 62-90), and is summarized in Table III below.

In 1904-05 the Divisions of the Faculty, arranged according to the number of students who specialized under each, were:—

Modern Languages,	{	Geology,
History and Political Science,		Mathematics,
Philosophy (including Education),		Physics,
Ancient Languages,		Anthropology,
Chemistry,		Music,
Biology,		Engineering,
Fine Arts,		Semitic.

If we gather the Divisions into three great groups—first, of the languages, ancient and modern; second, of the historical and philosophical sciences; and, third, of the mathematical, physical, and so-called natural sciences—we may note that thirty-four per cent. of the students belong to the first group, forty-three per cent. to the second group, and twenty-three per cent. to the third group. In other words, over three-fourths of the students of the Graduate School of Arts and Sciences in this University in 1904-05 were pursuing the study of languages and literature, together with history, economics, philosophy, and the fine arts, while less than one-fourth were students of mathematics and the physical and biological sciences. This is substantially the proportion of the previous year, whereas the proportions in 1902-03, and before, were two-thirds and one-third respectively. This change is significant.

The proportion of students who received higher degrees at the close of the year is not the same for all Divisions, and it varies also within the several Divisions from year to year. In 1904-05, in the Divisions in which five or more students took higher degrees, we may note that in Philosophy about three-fifths of the students received such degrees; in Ancient Languages, exactly one-half; in History and Political Science and in Chemistry, nearly one-half; in Modern Languages, Biology, Physics, and Geology, a trifle more than one-third. (See Table XIII.)

In my last Report I gave a detailed table (Table III, p. 134) of the number of elections of courses and half-courses by Graduate Students for 1903-04. This table was based on the lists furnished

by the Dean of the Faculty. An examination of the lists for 1904-05 (see above, pp. 62-90) shows no substantial difference between the two years, and this fact makes unnecessary the presentation of a similarly detailed table for the year covered by this Report, and also makes unnecessary extended remarks upon the subject. A summary, however, may be useful (Table III). If we group the courses offered by the Faculty of Arts and Sciences into: first, Courses primarily for Undergraduates; secondly, Courses for Undergraduates and Graduates; and, thirdly, Courses primarily for Graduates, and express the choices of electives in terms of full courses, we shall find, in the case of Divisions where there were ten or more choices, that the number of elections of Graduate Students was as follows:—

TABLE III.—NUMBER OF ELECTIONS OF COURSES (AND HALF-COURSES) BY GRADUATE STUDENTS: 1904-05.

	Courses for Under-graduates.	For Under-graduates and Graduates.	Courses for Graduates.	Total.
Modern Languages	18	189	141½	298½
History and Political Science . . .	..	195	69½	264½
Ancient Languages	4½	49½	72	126
Philosophy	8	69½	52	124½
Chemistry	18½	33	32	78½
Biology	7	27½	14	48½
Mathematics and Astronomy . . .	5½	10	30	45½
Architecture (including Landscape Architecture)	21	11½	8	40½
Physics	4½	11	18	33½
Engineering	18½	14	..	27½
Geology	4	19	4	27
Anthropology . . . . .	..	7	7½	14½
Mining and Metallurgy	2½	5	3	10½
Semitic, Fine Arts, Music, Forestry, Mineralogy	7½	19½	..	27
Total (in courses)	104½	610½	451½	1166½

This summary indicates that of the entire number of choices of Graduate Students, nine per cent. were of courses primarily for Undergraduates, fifty-two and one-half per cent. of courses for Undergraduates and Graduates, and thirty-nine per cent. of courses primarily for Graduates (last year, 1903-04, the proportions were six and one-half per cent., fifty-seven and one-half per cent., thirty-six per cent. respectively). If we examine the Divisions in which

there is a considerable number of elections of courses primarily for Graduates, we see a striking difference between them: for example, in Ancient Languages, of all the elections of Graduate Students, four-sevenths are of "Graduate" courses; in Mathematics, nearly two-thirds; in Physics and Modern Languages, about one-half; in Philosophy and Chemistry, between one-half and one-third; in Biology, about one-third; in History and Political Science, not quite one-fourth.

The next division of Table I, with which Table IV should be compared, gives information about the period of residence of men in the School. Three-fifths of the students were in the School for their first year. Of these first-year men over one-third secured the Master's degree (eighty Master of Arts, three Master of Science). About one-quarter were in their second year, and the remaining three-twentieths were in their third, or a later, year of residence. The proportion of men in their first year was about the same as in 1903-04, but this was larger than ever before. As I have remarked in former Reports, the majority of men who come to the School intend to remain in it but one year, and not a half of these have a degree in view.

TABLE IV. — PERCENTAGE OF STUDENTS IN THEIR FIRST AND FOLLOWING YEARS: 1899-1905.

	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
First-year Students . .	53	54	50	54	61	60
Second-year Students .	25	23	26	26	21	24
Third-year Students .	11	15	12	11	12	11
Fourth-year Students and Students of longer residence .	11	8	12	9	6	5

A few observations on the academic status of first-year students are pertinent. Whereas in the professional schools a large proportion of the first-year men are fresh from college and expect to remain two or three years in the school, the case is otherwise in our School: thus, of the first-year men in 1904-05, only about forty-one per cent. entered the School immediately after receiving the first degree in Arts or Science, or completing the requirements for it (of this category the proportion in 1903-04 was forty-two per cent., in 1902-03 thirty-two per cent., in 1901-02 twenty-six per cent.). About twelve

per cent. of the first-year men had been one year out of college, that is, had received their degree in 1903; ten per cent. had received the degree in 1902; seven per cent. in 1901, while the remainder, about twenty-nine per cent., had received their degrees in 1900 or earlier, that is, had been four or more years out of college before entering the School. These proportions are surprisingly similar to those of 1903-04. It is an excellent sign that the proportion of men is increasing who are able to continue their advanced studies immediately on leaving college.

The fourth division of Table I shows the extent to which the School draws its members from Harvard University, as contrasted with other institutions. (For detailed information on this point Tables VI and IX may be consulted.) About forty-eight per cent. held a degree from Harvard University, and the remaining fifty-two per cent. of course had no Harvard degree (in 1903-04 as well as in 1902-03 the proportions were reversed, being about fifty-three and forty-seven per cent. respectively). The percentage of students who held no Harvard first degree is given in Table V. The increase here is a

TABLE V. — PERCENTAGE OF STUDENTS FROM OTHER COLLEGES.

	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Percentage of Students holding no Harvard degree	40	41	44	44	40	46	46	52
Percentage of Students holding no Harvard first degree in Arts or Sciences .	55	55	61	62	56	62	59	65

little misleading, since it was due to a large extent to the accession of men from Harvard College who had not actually received the Bachelor's degree (sixteen in number), though they had nearly, or quite, completed the requirements for it.

Tables VI and IX supplement each other and show in detail the extent to which different parts of the country and different higher institutions contribute to the membership of the School. In Table VI are given the various colleges and universities, including professional and technical schools, American and foreign, whose graduates were members of the School, together with the degrees these men held and the number of different men from each institution.

Tables VI, VII, IX show that men continue to come to the Graduate School from colleges and universities in all parts of the country, and,

TABLE VI. — COLLEGES AND UNIVERSITIES, WITH DEGREES HELD: 1904-05.

	A.B.	S.B.	LITT.B.	Ph.B.	A.M.	S.M.	Ph.D.	S.T.B.	LL.B.	M.D.	No. De- gree.	No. Per- sons.
Acaemia University, N. S.	2	..	..	..	1	..	..	..	..	..	3	2
Agricultural College of Utah	..	1	..	..	..	..	..	..	..	..	1	1
Alabama Polytechnic Institute	..	1	..	..	..	1	..	..	..	..	2	1
Albany Law School, N. Y.	..	..	..	..	..	..	..	..	1	..	1	1
Allegheny College, Pa.	2	..	..	..	1	..	..	..	..	..	3	2
Amherst College, Mass.	5	3	..	..	1	..	..	..	..	..	9	8
Antioch College, O.	1	..	..	..	1	..	..	..	..	..	2	1
Baker University, Kan.	1	1	..	..	..	..	..	..	..	..	1	1
Bates College, Me.	4	..	..	..	..	..	..	..	..	..	4	4
Beloit College, Wis.	1	1	..	..	..	..	..	..	..	..	1	1
Berea College, Ky.	1	..	..	..	1	..	1	..	..	..	1	1
Boston University, Mass.	3	..	..	..	..	..	..	..	1	..	1	1
Bowdoin College, Me.	5	..	..	..	..	..	..	..	..	..	5	5
Brigham Young College, Utah	1	..	..	..	..	..	..	..	..	..	1	1
Brown University, R. I.	5	..	..	..	3	..	..	..	..	..	8	7
Buchtel College, O.	..	..	..	..	1	..	..	..	..	..	1	1
Bucknell University, Pa.*	1	1	1	..	1	..	..	..	..	..	2	1
California, University of	..	1	..	..	..	..	..	..	..	..	4	3
Case School of Applied Science, O.	..	1	..	..	..	..	..	..	..	..	1	1
Chicago, University of, Ill.	2	..	..	..	1	..	1	..	..	..	3	3
Clark University, Mass.	..	..	..	..	..	..	..	..	..	..	1	1
Coe College, Ia.	1	..	..	..	..	..	..	..	..	..	1	1
Colby College, Me.	2	..	..	..	..	..	..	..	..	..	2	2
Colgate University, N. Y.	2	..	..	..	..	..	..	..	..	..	2	2
College of Charleston, S. C.	1	..	..	..	..	..	..	..	..	..	1	1
College of the City of New York	..	1	..	..	..	..	1	..	..	..	1	1
Columbia University, N. Y.	..	..	..	..	..	..	..	..	..	..	2	2
Cornell College, Ia.	1	..	..	..	..	..	..	..	..	..	2	2
Cornell University, N. Y.	4	..	..	..	1	..	..	..	..	..	7	5
Dalhousie University, N. S.	2	..	..	..	..	..	..	..	..	..	2	3
Dartmouth College, N. H.	7	..	2	..	2	..	..	..	..	..	11	9
Davidson College, N. C.	1	..	..	..	..	..	..	..	..	..	1	1
Delaware College	1	..	..	..	1	..	..	..	..	..	1	1

[illegible]

TABLE VI. — CONTINUED.

	A.B.	S.B.	Litt.B.	Ph.B.	A.M.	S.M.	Ph.D.	S.T.B.	L.L.B.	M.D.	No. De- grees.	No. Per- sons.
North Carolina, University of	2	..	..	..	..	..	..	..	..	..	2	2
Northwestern University, Ill.	..	..	..	1	1	1	..	..	..	..	2	2
Northwestern University, Wis.	1	..	..	..	..	..	..	1	..	..	1	1
Oberlin College, O.	1	..	1	..	..	..	..	..	..	..	1	1
Ohio Northern University	1	..	..	1	..	..	..	..	..	..	1	1
Ohio State University	..	..	..	..	..	..	..	..	..	..	1	1
Ohio Wesleyan University	11	2	..	..	2	..	..	..	..	..	15	14
Oregon Agricultural College	..	1	..	..	..	..	..	1	..	..	1	1
Oregon, University of	1	..	..	..	..	..	..	..	..	..	1	1
Ottawa University, Kan.	1	..	..	..	..	..	..	..	..	..	1	1
Oxford, University of, Eng.	2	..	..	..	1	..	..	..	..	..	1	1
Paris, University of, France*	..	..	1	..	..	..	..	..	..	..	2	2
Pennsylvania, University of	1	1	..	1	1	..	..	..	..	..	4	4
Polysynthetic Institute of Brooklyn, N.Y.	..	1	1	..	..	..	..	..	..	..	1	1
Purdue University, Ind.	..	1	..	..	..	..	..	..	..	..	1	1
Queen's University, Ont.	..	..	..	..	1	..	..	..	..	..	1	1
Rhode Island College	..	2	..	..	..	..	..	..	..	..	2	2
Richmond College, Va.	2	..	..	..	1	..	..	..	..	..	3	3
Rochester, University of, N.Y.	5	..	..	..	..	..	..	..	..	..	5	5
St. Anselm's College, N.H.	1	1	..	1	1	..	..	..	..	..	2	1
St. Stephen's College, N.Y.	1	..	..	..	..	..	..	..	..	..	1	1
Shurtleff College, Ill.	1	..	..	..	1	..	1	1	..	..	4	1
South Carolina College	..	..	..	..	1	..	..	..	..	..	1	1
South Dakota, University of	1	..	..	..	1	..	..	..	..	..	2	1
Southern University, Ala.	1	..	..	..	..	..	..	..	..	..	1	1
State University of Iowa	1	..	..	4	2	1	..	..	..	..	8	5
Swarthmore College, Pa.*	..	1	..	..	..	..	..	..	..	..	1	1
Sydney, University of, Australia	1	..	..	..	1	..	..	..	..	..	1	1
Syracuse University, N.Y.	1	..	..	..	..	..	..	..	..	..	2	1
Texas, University of	2	1	..	..	2	1	..	..	..	..	6	3
Toronto, University of, Ont.*	4	..	..	..	..	..	..	..	..	..	5	5
Trinity College, Conn.	2	..	..	..	1	..	..	..	..	..	3	2
Trinity College, N.C.	..	..	..	..	1	..	..	..	..	..	1	1

Tufts College, Mass.	3	.	.	.	.	.	.	.	2	.	.	.	1	.	.	.	.	6	3
Tulane University, La.	1	1	.	.	.	.	.	.	.	1	.	.	.	1	.	.	.	1	1
University of the South, Tenn.	1	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	1
Valparaiso College, Ind.	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	1
Vanderbilt University, Tenn.	2	2	1	.	.	.	.	.	.	1	.	.	1	.	.	.	.	5	4
Virginia, University of	2	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	4	2
Wake Forest College, N. C.	1	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	2	1
Washington and Jefferson College, Pa.	2	.	.	.	.	.	.	.	1	1	.	.	1	.	.	.	.	4	2
Washington and Lee University, Va.	.	.	.	.	.	.	.	.	1	.	.	.	1	.	.	.	.	2	1
Washington University, Mo.	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2
Wesleyan University, Conn.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2
Western Reserve University, O.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1
Western University of Pennsylvania	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1
West Virginia University	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1
Wheaton College, Ill.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1
Williamette University, Ore.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1
William Jewell College, Mo.	1	1	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	2	1
Williams College, Mass.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	9	8
Wisconsin, University of	8	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	3	2
Wofford College, S. C.	1	1	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.	1	1
Worcester Polytechnic Institute, Mass.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1
Yale University, Conn.	4	.	.	.	.	.	.	1	.	.	.	.	.	1	.	.	.	6	6
Total	311	44	7	16	152	9	15	4	8	1	.	.	.	.	.	.	.	460	
Non-Graduates and other Graduates (see note)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	37	
Deduct for names counted twice or more than twice	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	487	
	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	92	
	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	395	

* Besides the degrees enumerated above, the following were held by one or more persons each, as indicated: D.D., Upper Iowa University; Th.M., Southern Baptist Theological Seminary, Ky.; Ph.M., Bucknell University, Pa.; Lic.-es-lettres, University of Paris, France; B.App.Sc., University of Toronto, Ont.; B.A.S. (2), Harvard University; Ph.D. (4), Michigan State Normal School (2), First Pennsylvania State Normal School, Millersville, and the University of Missouri; Ed.M., First Pennsylvania State Normal School, Millersville; M.D., Iowa State Normal School. There were, further, in the School one graduate each of Meadville Theological School, Pa.; Western Theological Seminary, Pa.; Reformed Theological Seminary, Pa.; and the Königliche Academie der Tonkunst, Munich, Germany. There were eight students from Japanese colleges and universities, one of whom also held a degree from an American college. There was one graduate of a German Gymnasium who had received no academic degree. There were sixteen Harvard College Seniors on leave of absence; seven other non-graduates of Harvard College; and one non-graduate of the Massachusetts Institute of Technology.

to a slight extent, from those in Canada and foreign lands. The entire number of institutions thus represented is one hundred and thirty-three.

TABLE VII.—FIRST-YEAR MEN: PERCENTAGE FROM VARIOUS COLLEGES AND UNIVERSITIES—1901-02, 1902-03, 1903-04, 1904-05.

	1901-02.	1902-03.	1903-04.	1904-05.
Harvard	81	83	88	40
Other New England Colleges	14	20	21	13
Colleges in the Central States	84	24	18	26
Colleges in States West of the Mississippi	9	12	9	12
Colleges in Southern States	4	6	7	5
Colleges in Canada	7	8	3	2
Foreign Universities . . . . .	..	..	4	3

Table VII gives the percentage of first-year men from various colleges and universities for the last four years. The steady increase of men from Harvard is noteworthy, as is also the sudden decline in the proportion of men from other New England colleges; that of men from colleges of the Central States has become more normal than it was in 1903-04.

The most common degree held by members of the School was that of Bachelor of Arts (three hundred and eleven); next, that of Master of Arts. There were one hundred and fifty-two Masters of Arts, nine Masters of Science, and fifteen Doctors of Philosophy in the School in 1904-05, as against one hundred and sixty-eight Masters of Arts, eight Masters of Science, and ten Doctors of Philosophy in the preceding year.

TABLE VIII.—PERCENTAGE OF BACHELORS' DEGREES OF DIFFERENT KINDS: 1897-1905.

	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
A.B.'s	84	86	84	80	84	83	84	83
S.B.'s	9	8	10	11	11	10	10	12
Other Bachelors' degrees	7	6	6	9	5	7	6	6

The percentage of Bachelors' degrees in Arts and Science for the last eight years is remarkably constant. (Table VIII.)

The list of colleges that send four or more men each year to the School varies only slightly from year to year, as may be seen in Table IX. Leaving Harvard graduates out of consideration, there

TABLE IX. — COLLEGES AND UNIVERSITIES REPRESENTED BY FOUR OR MORE GRADUATES IN THE SCHOOL:
1900-01, 1901-02, 1902-03, 1903-04, 1904-05.

1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Harvard, 197 Brown, 11 Amherst, 10 Bowdoin, 9 Oberlin, 9 California, 7 Illinois, 7 Michigan, 7 Yale, 7 Dartmouth, 6 Toronto, 6 Wesleyan (Conn.), 6 Williams, 5 Boston Univ., 5 Kansas, 5 Northwestern, 5 Pennsylvania, 5 Tufts, 5 Beloit, 4 Dalhousie, 4 Haverford, 4 Nebraska, 4 New Brunswick, 4	Harvard, 189 Amherst, 8 Bowdoin, 8 Brown, 8 California, 7 Toronto, 6 Dalhousie, 5 Dartmouth, 5 Ohio Wesleyan, 5 Trinity (Conn.), 5 New Brunswick, 5 Missouri, 5 Haverford, 4 Oberlin, 4 Princeton, 4 Tufts, 4 Yale, 4 Beloit, 4 New York, 4 Williams, 4 Wofford, 4	Harvard, 174 Brown, 11 Amherst, 10 Bowdoin, 7 Dartmouth, 7 Chicago, 7 Michigan, 7 Columbia, 6 Leland Stanford Jr., 6 Northwestern, 6 Tufts, 6 California, 6 Yale, 6 Haverford, 5 Ohio Wesleyan, 5 Trinity (Conn.), 5 Beloit, 4 New York, 4 Williams, 4 Wofford, 4	Harvard, 232 Amherst, 14 Brown, 12 Dartmouth, 12 Michigan, 10 Yale, 9 Ohio Wesleyan, 8 Bowdoin, 7 Haverford, 7 Williams, 6 Tufts, 6 West Virginia, 5 Boston Univ., 5 Columbia, 5 Texas, 5 Leland Stanford Jr., 4 Trinity (Conn.), 4 California, 4 Pennsylvania, 4 Toronto, 4 Wesleyan (Conn.), 4	Harvard, 192 Ohio Wesleyan, 14 Dartmouth, 9 Amherst, 8 Williams, 8 Brown, 7 Yale, 6 Boston Univ., 5 Bowdoin, 5 Cornell Univ., 5 Haverford, 5 Leland Stanford Jr., 5 State Univ. of Iowa, 5 Michigan, 5 Rochester, 5 Toronto, 5 Bates, 4 Missouri, 4 Pennsylvania, 4 Vanderbilt, 4
Total Membership, 353	315	325	427	395

were in 1896-97 fourteen colleges represented by four or more men ; in 1897-98, eighteen ; in 1898-99, fifteen ; in 1899-1900, twenty-four ; in 1900-01, twenty-three ; in 1901-02, seventeen ; in 1902-03, 1903-04, and 1904-05, twenty.

The colleges and universities that have been steadiest in the supply of Graduate Students for the past six years, each sending four or more every year, are Amherst, Bowdoin, Brown, and Yale. Other colleges that within this period of six years have sent for five years four or more men are : California, Dartmouth, Michigan, Toronto, Tufts, and Williams ; for four years, Boston University, Haverford, Leland Stanford, Jr., Ohio Wesleyan, and Pennsylvania ; and for three years, Dalhousie, Oberlin, Trinity (Conn.), and Wesleyan (Conn.).

Three resident members of the Graduate School were holders of travelling fellowships from some other institution, namely, Amherst College, the Rufus B. Kellogg University Fellowship ; Bowdoin College, the Charles Carroll Everett Fellowship ; the University of Paris, the Cercle Français Fellowship. With these may be classed the holder of the George Foster Peabody Scholarship of this University, which is open only to graduates of the University of Georgia, and the four holders of the scholarships of the Harvard Clubs of Louisiana, Chicago, St. Louis, and San Francisco, who come from colleges in Louisiana or near the cities named, respectively.

Examination of Table VI, particularly of the higher degrees there recorded, and of the list of students, shows that more than half of the students have pursued graduate studies before taking up the work of the year with us. The proportions here differ so little from year to year that statistics need not be given.

An interesting group of students is made up of teachers on leave of absence from colleges or schools where they have secured an established position. Whereas strictly professional students go to a professional school to obtain their equipment, these men come to our School to enlarge or enrich an equipment already obtained. There were in the School in 1904-05 many such students on leave of absence, fifteen from as many colleges, and eleven from as many secondary institutions, including a number of Normal Schools ; in fact, there were about one hundred and fifty professional teachers registered as students in the School.

Table X shows a slight increase in the number of students in the School who were born out of New England, a larger percentage than ever before being in residence in 1904-05. The proportionate number of men who claim residence in the Northern States east of the

TABLE X. — BIRTHPLACES OF GRADUATE STUDENTS: 1897-1905.

	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Students born in the New England States	121	143	122	127	107	122	168	182
Students born in other Northern States east of the Mississippi River	89	106	119	136	109	108	141	142
Students born in Southern States east of the Mississippi River	19	15	17	16	11	14	31	21
Students born in States west of the Mississippi River	26	30	34	30	39	39	35	42
Students born in the Dominion of Canada	18	25	28	21	22	16	17	19
Students born in other foreign countries	20	17	26	23	27	26	35	39
Total number of students	298	386	341	353	315	325	427	395
Percentage of students born in New England	41	48	36	36	34	38	39	38
Percentage of students born elsewhere	59	57	64	64	66	62	61	67

Mississippi River is larger than it has been for several years past. (Table XI.)

TABLE XI. — RESIDENCES OF GRADUATE STUDENTS: 1901-1905.

	1901-02.	1902-03.	1903-04.	1904-05.
New England States	146	167	221	181
Northern States east of the Mississippi River	88	88	120	125
Southern States east of the Mississippi River	11	12	25	20
States west of the Mississippi River	45	40	38	44
Canada	19	12	13	10
Foreign countries	6	6	10	15
	315	325	427	395

Of the three hundred and ninety-five students in the School in 1904-05, seventy-one, or nearly one-fifth, were married men, whose wives and families for the most part accompanied them to Cambridge. Of these married men, seventeen were holders of fellowships or scholarships, including seven Austin Scholars; fifteen, including one scholarship holder, held instructorships, Austin Teaching Fellowships, or assistantships.

DEGREES.

One hundred and eighty-five men were recommended* for the higher degrees of Doctor or Master at Commencement, 1905, a larger number than in any previous year except 1904. The details are found in the following table (XII), which gives, in the first and

TABLE XII. — RECOMMENDATIONS FOR DEGREES IN 1903-05.

	1903.	1904.	1905.
I. Graduate Students recommended for A.B. . .	10	3	2
Graduate Students recommended for A.M. . .	97	113	106
Graduate Students recommended for S.M. . .	6	8	4
Graduate Students recommended for Ph.D. . .	28	44	38
Graduate Students recommended for S.D. . .	1 142	1 164	0 150
II. College Seniors recommended for A.M. . . .	1	0	0
College Seniors of a preceding year, recommended for A.M. on work done in Senior year	24	36	26
College Juniors of a preceding year, recommended for A.M. on work done in Junior year	1	0	0
L.S.S. fourth-year men of a preceding year, recommended for S.M. on work done in L.S.S. fourth year	1	0	0
Professional students recommended for A.M. on special courses of study	5	15	10
Professional students recommended for Ph.D. on special courses of study	0 32	2 53	1 37
Total of the above list	174	217	187
Deduct Graduate Students recommended for A.B.	10	3	2
Total number recommended for A.M., S.M., Ph.D., and S.D.	164	214	185
III. Harvard Bachelors of Arts or Science, not previously graduated elsewhere	68	95	78
Harvard Bachelors of Arts or Science, previously graduated elsewhere	12	11	3
Students not Harvard Bachelors of Arts or Science	84 164	108 214	104 185

second parts, the number of students in the School recommended by the Faculty of Arts and Sciences for any degree, and the number of other students recommended for the four higher degrees in the three years, 1903, 1904, and 1905. In the third part of the table all

* The number of persons recommended each year, and that of the men who actually receive the degree, as published in the Annual Catalogue, do not always agree. Usually a few of the candidates recommended do not receive the degree at once. The degree is in these cases ordinarily conferred in a later year, "as of" the year in which the recommendation was made.

persons recommended for the higher degrees are classified with reference to their previous graduation as Bachelors of Arts or of Science.

This table calls for only two or three remarks. Of the men who were recommended for the higher degrees, eighty per cent. were Graduate Students (one hundred and forty-eight), while about six per cent. had completed their work while registered in another graduate department of the University, as students of Law, Medicine, or Divinity. Fourteen per cent. had never been registered in the School or in another graduate department; these were twenty-six men who had completed their work as college Seniors. Hereafter, however, this anomaly will disappear, since the Faculty has passed the regulation that candidates for the degree of Master of Arts must be registered during their candidacy as students either in the Graduate School of Arts and Sciences or in another graduate department of the University.

There has been now for more than seven years a gradual increase in the proportion of non-Harvard men who come up for their degrees, — from forty-four per cent. in 1899 to fifty-six per cent. in 1905.

TABLE XIII. — DIVISIONS AND DEPARTMENTS IN WHICH RECOMMENDATIONS FOR THE HIGHER DEGREES WERE MADE IN 1905.

DIVISION.	DEPARTMENT.	DEGREES.			
		A.M.	S.M.	PH.D.	S.D.
I. Semitic Languages and History		1	..	..	..
II. Ancient Languages :					
Indic Philology	1	..
The Classics (Greek, Latin)		11	..	5	..
Total in Ancient Languages		— 11	— ..	— 6	— ..
III. Modern Languages :					
English		22	..	2	..
Germanic Languages and Literatures		5	..	1	..
French, and other Romance Languages and Literatures		2	..	3	..
In more than one Department		3	..	..	..
Total in Modern Languages		— 32	— ..	— 6	— ..
IV. History and Political Science :					
History and Government		22	..	5	..
Political Economy		10	..	3	..
Total in Hist. and Political Sci.		— 32	— ..	— 8	— ..
V. Philosophy		19	.	10	..
[Education		3		1]	
VI. The Fine Arts :					
History and Principles of the Fine Arts		1	..	..	..
Architecture		1	2	..	..
Total in the Fine Arts		— 2	— 2	— ..	— ..

DIVISION.	DEPARTMENT.	DEGREES.			
		A.M.	S.M.	Ph.D.	S.D.
VII. Music		1	..	1	..
VIII. Mathematics		1	..	1	..
IX. Engineering		1	..	..	..
X. Physics		3	1	1	..
XI. Chemistry		9	..	3	..
XII. Biology:					
	Botany	1	..	1	
	Zoölogy	4	1	1	..
	Total in Biology	— 5	— 1	— 2	—
XIII. Geology:					
	Geology and Geography	3	..	..	..
	Mineralogy and Petrography . . . . .	..	..	..	..
	Mining and Metallurgy	3	..	..	..
	Total in Geology	— 6	— ..	— ..	— ..
XIV. Anthropology		1	..	..	..
In more than one Division		6	..	..	..
Professional Students:					
	Divinity School	6	..	1	..
	Law School	3	..	..	..
	Medical School	1	..	..	..
	Total	140	4	39	..

In Table XIII are indicated the Departments or fields of study in which lay the chief work of the successful candidates for the higher degrees. A comparison of this table with Table III, with a view to determining the relation of choices of courses by Graduate Students to the degrees won, might be of interest.

Five of the fourteen Divisions were represented by ten or more candidates: History and Political Science by forty, including eight Doctors; Philosophy by thirty-nine, including ten Doctors; Modern Languages by thirty-eight, including six Doctors; Ancient Languages by seventeen, including six Doctors.

The Divinity School sent up six Masters of Arts and one Doctor. Of nine candidates in the Law School for the degree of Master of Arts, three only were successful.

One hundred and forty-four Masters were recommended in course, one hundred and forty in Arts and four in Science.

The degree of Doctor of Philosophy was conferred upon the thirty-nine men named below: with each name is indicated the special field in which the degree was taken, the candidate's academic history in brief, the subject of his thesis, and his present occupation.

Philology.

HENRY LAMAR CROSBY.

Classical Philology.—A.B. (*Univ. of Texas*) 1901, A.M. (*ibid.*) 1902, A.M. (*Harvard Univ.*) 1903.—Res. Gr. Stud., 1902-05.
 Thesis: "De Comicorum Græcorum Temporibus quaeritur."
 Instructor in Greek, University of Pennsylvania.

ROBERT ADGAR LAW.

English Philology.—A.B. (*Wofford Coll., S.C.*) 1898, A.M. (*Trinity Coll., N.C.*) 1902, A.M. (*Harvard Univ.*) 1903.—Res. Gr. Stud., 1902-05.
 Thesis: "The True Chronicle History of King Leir and his Three Daughters, Gonorill, Ragan, and Cordella."
 Instructor in English at this University.

JOHN LIVINGSTON LOWES.

English Philology.—A.B. (*Washington and Jefferson Coll., Pa.*) 1888, A.M. (*ibid.*) 1891, Gr. (*Western Theol. Seminary, Pa.*) 1894, Ph.D. Honorary (*Washington and Jefferson Coll., Pa.*) 1901, A.M. (*Harvard Univ.*) 1903.—Res. Gr. Stud., 1902-05.
 Thesis: "The Prologue to 'The Legend of Good Women,' considered in certain of its Literary Relations."
 Professor of English, Swarthmore College.

ARTHUR STANLEY PEASE.

Classical Philology.—A.B. 1902, A.M. 1903.—Res. Gr. Stud., 1902-05.
 Thesis: "De Sancti Hieronymi Commentariis Tractatibusque in Psalmos Quaestiones Variae."
 Rogers Fellow, in Europe.

TORSTEN PETERSSON.

Classical Philology.—A.B. 1901, A.M. 1902.—Res. Gr. Stud., 1901-02 and 1903-05.
 Thesis: "De Epigrammatis Iuliani Aegyptii."
 Instructor in Latin, University of California.

CHARLES BREWSTER RANDOLPH.

Classical Philology.—A.B. (*Wabash Coll., Ind.*) 1898, A.M. (*Harvard Univ.*) 1902.—Res. Gr. Stud., 1901-03.
 Thesis: "De Mandragora."
 Instructor in Greek and Latin, Collegiate Department of Clark University.

FRANK OTIS REED.

Romance Philology.—A.B. (*Amherst Coll.*) 1899, A.M. (*Harvard Univ.*) 1904.—Res. Gr. Stud., 1903-Mar. 1905.
 Thesis: "The History of the Spanish Past Participle compounded with *haber*."
 Lecturer, on the Rufus B. Kellogg University Fellowship, Amherst College.

DAVID BRAINERD SPOONER.

Indic Philology.—A.B. (*Leland Stanford Jr. Univ., Cal.*) 1899.—Non-Res. Stud., 1902-04; Res. Gr. Stud., 1904-05.
 Thesis: "A Critical Study of the Scholia of Mallinātha upon Kālidāsa's Lyric Poem entitled the Cloud-Messenger or Megha-Dūta."
 Harris Fellow, in Berlin.

ALBERT MOREY STURTEVANT.

Germanic Philology.—A.B. (*Trinity Coll., Conn.*) 1898, A.B. (*Harvard Univ.*) 1899, A.M. (*ibid.*) 1901.—Res. Gr. Stud., 1898-1901 and 1902-04.
 Thesis: "The Development of the Transposed Order in Old High German."
 Instructor in German at this University.

GEORGE WALLACE UMPHREY.

Romance Philology.—A.B. (*Univ. of Toronto, Ont.*) 1899, A.M. (*Harvard Univ.*) 1901.—Res. Gr. Stud., 1900-01 and 1904-05; Non-Res. Stud., 1903-04.
 Thesis: "A Study of the Aragonese Dialect, based on a Fourteenth Century Manuscript now Edited for the First Time."
 Instructor in Romance Languages, University of Cincinnati.

CHARLES MARSHALL UNDERWOOD, JR.

Romance Philology.—A.B. 1900, A.M. 1901.—Res. Gr. Stud., 1900-01 and 1903-05.
 Thesis: "The Ars Poetica of the Sweet New Style: A Study of the Second Book of Dante's Treatise *De Vulgari Eloquentia* and of its Relation to certain Early Italian Canzoni."
 John Harvard Fellow, and Fellow of the French Ministry of Public Instruction, in Paris.

Also, on March 8, 1905:—

ARTHUR ALEXIS BRYANT.

Classical Philology.—A.B. 1897, A.M. 1898.—Res. Gr. Stud., 1897-1900.
 Thesis: "De Atheniensium Vita Privata titularum ope Atticorum illustrata."
 Teacher of Classics, The Country School, Baltimore, Md.

Philosophy.

BIRD THOMAS BALDWIN.

Psychology.—S.B. (*Swarthmore Coll., Pa.*) 1900, A.M. (*Harvard Univ.*) 1903.—Res. Gr. Stud., 1902-Mar. 1905.
 Thesis: "The Mutual Influence of Different Starting Points on the Series of Associations."
 Professor of Psychology and Education, West Chester State Normal School, Pa.

GEORGE ALEXANDER BARROW.

Philosophy of Religion.—A.B. 1903.—Stud., Harvard Divinity School, 1903-05.
 Thesis: "The Religious Experience and Historical Revelation."
 Student in the Episcopal Theological School, Cambridge.

HAROLD CHAPMAN BROWN.

Logic.—A.B. (*Williams Coll.*) 1901, A.M. (*Harvard Univ.*) 1903.—Res. Gr. Stud., 1901-03 and 1904-05.
 Thesis: "The Problem of the Kantian Mathematical Antinomies."
 Assistant in Philosophy at this University.

ARTHUR STONE DEWING.

History of Philosophy.—A.B. 1902, A.M. 1903.—Res. Gr. Stud., 1902-03; Non-Res. Stud., 1904-05.
 Thesis: "Negation and Intuition in the Philosophy of Schelling."
 Assistant in Philosophy at this University.

CHARLES HUGHES JOHNSTON.

Psychology.—A.B. (*Univ. of North Carolina*) 1898, A.M. (*Harvard Univ.*) 1903.—Res. Gr. Stud., 1902-05.
 Thesis: "A Psychological Study of the Mutual Influence of Feelings."
 Professor of Pedagogy and Psychology, East Stroudsburg State Normal School, Pa.

ERNEST NORTHCROFT MERRINGTON.

Metaphysics. — A.B. (*Univ. of Sydney, Australia*) 1900, A.M. (*ibid.*) 1903. — Res. Gr. Stud., 1904-05.

Thesis: "The Metaphysical Problem of Personality."

Engaged in teaching in Australia.

HERBERT ADOLPHUS MILLER.

Psychology. — A.B. (*Dartmouth Coll., N.H.*) 1899, A.M. (*ibid.*) 1902. — Res. Gr. Stud., 1902-05.

Thesis: "The Race Problem and Psychophysics."

Assistant Professor of Philosophy and Social Science, Olivet College.

JARED SPARKS MOORE.

Metaphysics. — A.B. (*Johns Hopkins Univ., Md.*) 1900, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1902-05.

Thesis: "The Metaphysical Problem of Relation."

Assistant in Philosophy at this University.

JAMES BISSETT PRATT.

Philosophy of Religion. — A.B. (*Williams Coll.*) 1898, A.M. (*Harvard Univ.*) 1899. — Res. Gr. Stud., 1898-99 and 1903-05.

Thesis: "Historical Illustrations of the Psychology of Religious Belief."

Instructor in Philosophy, Williams College.

EDWARD OCTAVIUS SISSON.

Education. — S.B. (*Kansas Agricultural Coll.*) 1896, A.B. (*Univ. of Chicago, Ill.*) 1898. — Res. Gr. Stud., 1904-05.

Thesis: "The Protestant Religious Instruction in Prussian Schools."

Assistant Professor of Education, University of Illinois.

CLEMENT LESLIE VAUGHAN.

Psychology. — A.B. (*Acadia Univ., N.S.*) 1898, A.B. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1903-05.

Thesis: "The Motor Power of Optical Stimulations of Different Degrees of Complexity."

James Walker Fellow, in Berlin.

History.**ARTHUR IRVING ANDREWS.**

The Eastern Question. — A.B. (*Brown Univ., R.I.*) 1901. — Res. Gr. Stud., 1902-05.

Thesis: "The Campaign of the Emperor Charles V against Tunis and Kheir-ed-Din Barbarossa."

Travelling and studying in Europe and Northern Africa.

HIRAM BINGHAM.

South American History. — A.B. (*Yale Univ., Conn.*) 1898, A.M. (*Univ. of California*) 1900, A.M. (*Harvard Univ.*) 1901. — Res. Gr. Stud., 1900-02 and 1903-04.

Thesis: "The Scots Darien Company." Curator of South American History and Literature in the Harvard College Library. Preceptor at Princeton University.

WILLIAM STEARNS DAVIS.

English History. — A.B. 1900, A.M. 1901. — Res. Gr. Stud., 1900-01 and 1903-05.

Thesis: "Stephen Gardiner, Bishop of Winchester."

Travelling in Europe.

EMERSON DAVID FITE.

American History. — A.B. (*Yale Univ., Conn.*) 1897. — Res. Gr. Stud., 1901-05.

Thesis: "Prosperity during the Civil War: A Study of Northern Conditions."

Austin Teaching Fellow in Government at this University.

ROLAND GREENE USHER.

English History. — A.B. 1901, A.M. 1902. — Res. Gr. Stud., 1901-02; Non-Res. Stud., 1902-04.

Thesis: "The High Commission and the Opposition to it."

Assistant in History at this University.

Economics.**VANDERVEER CUSTIS.**

Industrial Organization. — A.B. 1901, A.M. 1902. — Res. Gr. Stud., 1902-04.

Thesis: "The Forces in Industrial Consolidation."

Assistant Professor of Economics, University of Washington.

WILLIAM HYDE PRICE.

English Economic History. — A.B. (*Yale Coll.*) 1901, A.M. (*ibid.*) 1901, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901-04; Non-Res. Stud., 1904-05.

Thesis: "The English Patents of Monopoly, 1550-1640."

Assistant in Economics at this University.

ALBERT BENEDICT WOLFE.

Economic Theory. — A.B. 1902, A.M. 1903. — Res. Gr. Stud., 1902-04.

Thesis: "The Lodging-House Problem in Boston."

Teacher of History, McKinley High School, St. Louis, Mo.

Music.**LOUIS ADOLPHE COERNE.**

Orchestration. — Gr., *Königliche Academie der Tonkunst, Munich, Germany*, 1898. — Res. Gr. Stud., Feb.-Dec., 1904.

Thesis: "The Evolution of Modern Orchestration."

Travelling and studying in Europe.

Mathematics.**WALTER BURTON FORD.**

Analysis. — A.B. 1897, A.M. 1898. — Res. Gr. Stud., 1897-98.

Thesis: "On the Problem of Analytic Extension as applied to Functions defined by Power Series."

Instructor in Mathematics, Williams College.

Physics.**HOWARD LANE BLACKWELL.**

Electricity and Light. — A.B. 1899, A.M. 1900. — Res. Gr. Stud., 1899-1900 and 1901-03.

Thesis: "Dispersion in Electric Double Refraction."

Fellow for Research in Physics at this University.

Chemistry.

LATHAM CLARKE.

Organic Chemistry. — *s.B.* (*Rhode Island Coll.*) 1902, *A.M.* (*Brown Univ.*) 1903. — *Res. Gr. Stud.*, 1903-06.

Thesis: "Addition Compounds of Dimethylaniline."

Instructor in Chemistry at this University.

GEORGE SHANNON FORBES.

Physical Chemistry. — *A.B.* 1902, *A.M.* 1904. — *Res. Gr. Stud.*, 1902-05.

Thesis: "Energy Changes Involved in the Diffusion of Zinc and Cadmium Amalgams."

Lecturer on Physical Chemistry at this University.

FREDERICK WILLIAM RUSSE.

Organic Chemistry. — *A.B.* 1902, *A.M.* 1903. — *Res. Gr. Stud.*, 1902-05.Thesis: "On Tetrabromomorphobenzoquinone."
Chemist at the Mallinckrodt Works, St. Louis, Mo.

Biology.

MAULSBY WILLETT BLACKMAN.

Zoology. — *A.B.* (*Univ. of Kansas*) 1901, *A.M.* (*ibid.*) 1902. — *Res. Gr. Stud.*, 1904-05.Thesis: "The Spermatogenesis of *Scolopendra heros*."

Instructor in Biology, Medical School of Western Reserve University.

AMON BENTON FLOWMAN.

Botany. — *s.B.* (*Ohio Wesleyan Univ.*) 1900, *A.M.* (*Harvard Univ.*) 1902. — *Res. Gr. Stud.*, 1901-02 and 1903-05.

Thesis: "The Comparative Anatomy and Phylogeny of the Cyperaceae."

Teacher of Natural Science, Manual Training School, Pittsburg, Kan.

Of the thirty-nine Doctors, thirty-one — or three-fourths of the whole number — are known to be now engaged each in the actual pursuit of his profession. Twenty-four are teachers in colleges or universities, five having the rank of professor or assistant professor; eleven of the twenty-four are in the service of this University (three instructors, one lecturer, one teaching fellow, one fellow for research, five assistants). Six are teaching in secondary schools, including normal schools. One is an industrial chemist. The remaining eight are continuing their studies, seven in Europe, four being travelling fellows.

The degree of Doctor of Philosophy is based on that of Bachelor of Arts, or on an equivalent education. Hence all the Doctors held degrees in Arts (except one, who had no degree at all). Thirty-two were Masters of Arts; two were Bachelors of Arts only; one had two Bachelors' degrees (in Arts and in Science). Twenty-eight were Harvard Masters of Arts. There were sixteen Harvard Bachelors of Arts, and twenty-two Bachelors of Arts of other colleges: thirteen of the Harvard Bachelors had received all their undergraduate training at Harvard. The proportion of Doctors whose undergraduate work was mainly done elsewhere than at Harvard — two-thirds — is about the same as last year.

With respect to the amount of time that had elapsed since the candidates had received their first degrees in Arts or Science, it deserves record that in the case of nineteen candidates six or more years had passed. Of the remaining twenty, five had been out of college five years; eight, four years; six, three years; and one, only, two years.

The period of resident study of the Doctors of Philosophy ranged from one year to five years. Eight candidates were in residence for

one year only; nine for two years; eighteen for three years; three for four years, and one for five years. All of the eight who spent only one year in residence had had one or more years of duly supervised and approved graduate study elsewhere. The Divisions or Departments in which the degree was conferred after one year of resident study were Philosophy (three candidates), Biology, Indic Philology, History, Mathematics, and Music (one each); those after two years were Philosophy (three), Romance Philology and Economics (two), and Chemistry and Classics (one each); those after three years were Philosophy (five), Classics (four), History (three), Chemistry (two), Romance Philology and Botany (with one each); those after four years, History, Economics, and Romance Philology (with one each); the candidate who was five years in residence was a student of Physics.

The average period of residence and study at Harvard for the Doctors of Philosophy of 1905 proves to be a little less than three years. If, however, we take into consideration graduate work done elsewhere by many of the short term candidates, notably by all the one-year men, the period of graduate study mounts up to more than three years.

TABLE XIV. — AGE OF GRADUATE STUDENTS RECOMMENDED FOR THE DEGREES OF MASTER OF ARTS, MASTER OF SCIENCE, AND DOCTOR OF PHILOSOPHY: 1905.*

	21	22	23	24	25	26	27	28-34	35-39	40 or over	Total.
A.M.'s	12	12	16	7	6	7	1	28	6	5	100
S.M.'s . . . . .	..	..	2	..	2	..	..	..	..	..	4
Ph.D.'s . . . . .	..	..	3	1	5	7	5	14	3	..	38

Tables XIV and XV explain themselves. In 1905, sixty-one Graduate Students secured the Master's degree whom we may regard as normal Masters of Arts; *i. e.*, they (like the twenty-six former Seniors in Harvard College) had continued their studies immediately after receiving the Bachelor's degree (or completing the requirements for it), or after an interval of not more than one year. The average age of these men was twenty-three.

* Men recommended for "as of" degrees are not included.

TABLE XV. — AGE OF GRADUATE STUDENTS RECOMMENDED FOR THE DEGREE OF DOCTOR OF PHILOSOPHY: 1897-1905.

	22	23	24	25	26	27	28 or over.	Average age of men 27 or under.	Percentage of men 28 or older.
1897 . . . . .	..	..	3	1	4	2	15	25.5	60
1898	1	..	1	4	2	2	15	25.2	60
1899	1	4	2	3	2	1	8	24.3	38
1900 . . . . .	..	2	3	4	2	6	18	25.4	51
1901 . . . . .	..	..	1	3	5	3	17	25.8	59
1902 . . . . .	..	1	2	3	4	2	16	25.3	57
1903 . . . . .	..	..	2	4	3	3	16	25.6	58
1904 . . . . .	..	..	4	4	7	5	24	26.1	55
1905 . . . . .	..	3	1	5	7	5	17	26	45

The "normal" Doctors should be about three years older. A glance at Table XV shows that their average age was actually twenty-six.

FELLOWSHIPS AND SCHOLARSHIPS.

Recommendations for fellowships and scholarships in the Graduate School of Arts and Sciences are made by the Faculty on the nomination of its Committee on Fellowships and other Aids for Graduate Students, of which the Dean of the School is Chairman.

Ninety-four appointments of this class were held by students in the Graduate School during 1904-05,—twenty-eight fellowships and sixty-six scholarships. With the fellowships are included the John Harvard Fellowships, without stipend (two in 1904-05). Fifteen of the fellowships, including one of the John Harvard Fellowships, were held as travelling fellowships by Non-Resident Students, all of whom studied abroad,—in Germany (five), in France (five), in England (three), and in Italy and Greece (one in each country). Thirteen of the fellowships, including one John Harvard Fellowship, and all the scholarships were held by Resident Students.

In the present year (1905-06) appointments have been made to twenty-nine fellowships and to fifty-nine scholarships.

The names of the holders of fellowships for last year and for the current year (with their present occupation and residence) follow.

1904-05.

Harris Fellowship (1868).

ELIJAH SWIFT.

A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903-04. — Shattuck Scholar, 1903-04. — Student of Mathematics, at Göttingen.
Continuing his studies at Göttingen, as Parker Fellow.

1905-06.

DAVID BRAINERD SPOONER.

A.B. (*Leland Stanford Jr. Univ., Cal.*) 1899, PH.D. (*Harvard Univ.*) 1905. — Non-Res. Stud., 1902-04; Res. Gr. Stud., 1904-05. — Travelling Fellow in Indic Philology, 1903-04; Christopher M. Weld Scholar, 1904-05. Student of Indic Philology, at Berlin.

Rogers Fellowships (1869).

CHESTER NOYES GREENOUGH.

A.B. 1898, A.M. 1899, PH.D. (English Philology) 1904. — Res. Gr. Stud., 1898-99 and 1902-04. — Shattuck Scholar, 1903-03; Edward Austin Fellow, 1903-04. — Instructor in English, 1901-02. — Student of English, in London.
Instructor in English at this University.

ARTHUR STANLEY PHASE.

(See Edward Austin Fellowships, 1904-05.)

GEORGE RANDALL LEWIS.

A.B. 1902. — Res. Gr. Stud., 1902-04; Non-Res. Stud., 1904-05. — Henry Lee Memorial Fellow, 1903-04. — Student of Economics, in London.
Continuing his studies in London, as Parker Fellow.

HERBERT THOMAS POLAND.

(See Edward Austin Fellowships, 1904-05.)

Parker Fellowships (1873).

HAROLD LOOMIS CLEASBY.

A.B. (*Trinity Coll., Conn.*) 1899, A.M. (*ibid.*) 1901, A.M. (*Harvard Univ.*) 1902, PH.D. (Classical Philology) 1904. — Res. Gr. Stud., 1901-04; Non-Res. Stud., 1904-05. — Christopher M. Weld Scholar, 1903-04. — Student of Classical Philology, at Berlin.
Instructor in Latin, Amherst College.

GEORGE RANDALL LEWIS.

(See Rogers Fellowships, 1904-05.)

ARTHUR BECKET LAMB.

A.B. (*Tufts Coll.*) 1900, A.M. (*ibid.*) 1900, A.M. (*Harvard Univ.*) 1903, PH.D. (*Tufts Coll.*) 1904, PH.D. (Chemistry) 1904. — Res. Gr. Stud., 1902-04; Non-Res. Stud., 1904-05. — Edward Austin Fellow, 1903-04. — Student of Chemistry, at Leipzig.
Instructor in Chemistry at this University.

WALTER JAMES SHEPARD.

A.B. (*Willamette Univ., Ore.*) 1900, A.B. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1903-05. — Austin Teaching Fellow in History, 1903-05.
Student of History, at Heidelberg.

TRUMAN MICHELSON.

A.B. 1902, A.M. 1903, PH.D. (Indic Philology) 1904. — Res. Gr. Stud., 1902-04; Non-Res. Stud., 1904-05. — George and Martha Derby Scholar, 1902-03; James Savage Scholar, 1903-04. — Student of Indic Philology, at Leipzig.
Instructor in Latin, University of Missouri.

ELIJAH SWIFT.

(See Harris Fellowship, 1904-05.)

1904-05.

John Thornton Kirkland Fellowship (1873).

RICHMOND LAURIN HAWKINS.

A.B. (*Univ. of Missouri*) 1899, A.M. (*ibid.*) 1900, A.B. (*Harvard Univ.*) 1903. — Student of Romance Philology, in Paris.
Instructor in Romance Languages at this University.

1905-06.

DEAN PUTNAM LOCKWOOD.

A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903-05. — Charles Haven Goodwin Scholar, 1903-05.
Student of Classical Philology, at Munich.

James Walker Fellowship (1881).

ARTHUR STONE DEWING.

A.B. 1902, A.M. 1903, PH.D. (Philosophy) 1905. — Res. Gr. Stud., 1902-03; Non-Res. Stud., 1904-05. — Assistant in Philosophy, 1903-04. — Student of Philosophy, at Munich.
Assistant in Philosophy at this University.

CLEMENT LESLIE VAUGHAN.

A.B. (*Acadia Univ., N.S.*) 1898, A.B. (*Harvard Univ.*) 1903, PH.D. (Philosophy) 1905. — University Scholar, 1903-04; Towneend Scholar, 1904-05. — Assistant in Philosophy, 1904-05.
Student of Philosophy, at Berlin.

1904-05.

1905-06.

John Tyndall Scholarship (1885).

JOHN L. HOGO.

Reappointed.

A.B. (*Univ. of Toronto, Ont.*) 1899, A.M. (*Harvard Univ.*) 1902, PH.D. (Physics) 1904. — Res. Gr. Stud., 1901-05. — University Scholar, 1901-02; Whiting Fellow, 1902-03. — Student of Physics, at this University.

Instructor in Mathematics at this University.

PERCY WILLIAMS BRIDGMAN.

(See Whiting Fellowships, 1904-06.)

Robert Treat Paine Fellowship (1887).

EDWIN DETURCK BECHTEL.

Reappointed.

A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903-04; Non-Res. Stud., 1904-06. — Student of Social Science in Europe.
Student, Harvard Law School.

JAMES FORD.

A.B. 1906. — Res. Gr. Stud., 1904-06.
Student of Social Science at this University.

Henry Lee Memorial Fellowship (1889).

WILLIAM HYDE PRICE.

A.B. (*Tufts Coll.*) 1901, A.M. (*ibid.*) 1901, A.M. (*Harvard Univ.*) 1902, PH.D. (Economics) 1905. — Res. Gr. Stud., 1901-04; Non-Res. Stud., 1904-06. — Thayer Scholar, 1902-03. — Student of Economics, in London.

Assistant in Economics at this University.

CHARLES PHILLIPS HUSE.

A.B. 1904, A.M. 1905. — Res. Gr. Stud., 1904-05. — University Scholar, 1904-06.
Student of Economics at this University.

Ozias Goodwin Memorial Fellowship (1889).

WILLIAM CHAUNCEY RICE.

A.B. (*Wesleyan Univ., Conn.*) 1901, A.M. (*Yale Univ., Conn.*) 1902. — Res. Gr. Stud., 1902-05. — Thayer Scholar, 1903-04. — Assistant in Government, 1903-05.

Student, Harvard Law School, and Assistant in Government at this University.

WILLIAM OSCAR SCROGGS.

A.B. (*Alabama Polytechnic Institute*) 1899, S.M. (*ibid.*) 1900, A.M. (*Harvard Univ.*) 1905. — Res. Gr. Stud., 1904-06. — University Scholar, 1904-06.

Student of History and Government at this University.

Henry Bromfield Rogers Memorial Fellowship (1889).

RAY MADDING MCCONNELL.

A.B. (*Southern Univ., Ala.*) 1899, S.T.B. (*Vanderbilt Univ., Tenn.*) 1901, A.M. (*Harvard Univ.*) 1902. — Gr. Div. Stud., 1901-03; Non-Res. Stud., 1903-06. — James Walker Fellow, 1903-04. — Student of Philosophy, at Paris.

Graduate Student and Assistant in Philosophy at this University.

(Not assigned.)

Hemenway Fellowship (1891).

VILHJÁLMUR STEFÁNSSON.

A.B. (*State Univ. of Iowa*) 1903. — Special Div. Stud., 1903-04; Res. Gr. Stud., 1904-06.

Student of Anthropology at this University.

VILHJÁLMUR STEFÁNSSON.

Reappointed.

John Harvard Fellowships (1895).

ROBERT BELL MICHELL.

A.B. (*Univ. of Toronto, Ont.*) 1900, A.M. (*Harvard Univ.*) 1901, PH.D. (Romance Philology) 1904. — Res. Gr. Stud., 1900-03; Non-Res. Stud., 1904-06. — Townsend Scholar, 1901-02; Edward Austin Fellow, 1902-03. — Instructor in Romance Languages, 1903-04. — Student of Romance Languages in Paris, and Fellow of the Ministry of Public Instruction of the French Republic.

Instructor in Romance Languages at this University.

JAMES ALFRED FIELD.

A.B. 1903. — Res. Gr. Stud., 1903-06. — Assistant in Economics, 1903-04; Austin Teaching Fellow in Economics, 1904-06.
Student of Economics, at Berlin.

1904-05.

WILLIAM HENRY ROEVER.

Reappointed.

s.B. (*Washington Univ., Mo.*) 1897, A.M. (*Harvard Univ.*) 1904. — Res. Gr. Stud., 1897-98, 1901-02, and 1903-05. — Shattuck Scholar, 1897-98. — Instructor in Mathematics, 1902-03. — Student of Mathematics, at this University.

Instructor in Mathematics, Mass. Institute of Technology.

1905-06.

BURRITT SAMUEL LACY.

A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903-05. — Assistant in Chemistry, 1903-05. Student of Chemistry and Assistant in Chemistry, at this University.

JOHN CHRISTIAN RANSMEIER.

PH.B. (*Northwestern Univ., Ill.*) 1894, A.M. (*Harvard Univ.*) 1898, PH.D. (Germanic Philology) 1901. — Res. Gr. Stud., 1897-1901. — Thayer Scholar, 1898-99; Shattuck Scholar, 1899-1900; Morgan Fellow, 1900-01. — Assistant in German, 1899-1900. Student of Germanic Philology, at Berlin.

ALEXANDER MACKENZIE THOMPSON.

A.M. (*Queen's Univ., Ont.*) 1902, A.B. (*Harvard Univ.*) 1903, A.M. (*ibid.*) 1904. — Res. Gr. Stud., 1903-05. Student of Classical Philology, at Paris.

CHARLES MARSHALL UNDERWOOD, JR.

A.B. 1900, A.M. 1901, PH.D. (Romance Philology) 1905. — Res. Gr. Stud., 1900-01 and 1903-05. — Austin Scholar, 1903-04. — Austin Teaching Fellow in Romance Languages, 1900-01 and 1904-05.

Student of Romance Languages, and Fellow of the Ministry of Public Instruction of the French Republic, at Paris.

Whiting Fellowships (1895).

PERCY WILLIAMS BRIDGMAN.

A.B. 1904, A.M. 1905. — Student of Physics, at this University. Continuing his studies at this University, as John Tyndall Scholar.

HARVEY NATHANIEL DAVIS.

Reappointed.

A.B. (*Brown Univ., R.I.*) 1901, A.M. (*ibid.*) 1902, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1902-05. — Student of Physics, at this University.

Instructor in Physics, and in Mathematics, at this University.

ALPHEUS WILSON SMITH.

Reappointed.

A.B. (*West Virginia Univ.*) 1900, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1902-05. — Student of Physics, at this University.

Continuing his studies at this University, as Whiting Fellow.

CONRAD LOUIS BENONI SHUDDEMAGEN.

s.B. (*Univ. of Texas*) 1902, s.M. (*ibid.*) 1904. — Res. Gr. Stud., 1904-05. — Thayer Scholar, 1904-05.

Student of Physics at this University.

ALPHEUS WILSON SMITH.

Reappointed.

South End House Fellowship (1900).

JOHN DANIELS.

A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903-05. — Student of Sociology, at this University.

Continuing his studies at this University, as South End House Fellow.

JOHN DANIELS.

Reappointed.

Charles Elliot Norton Fellowship (1900).

CHANDLER RATHFON POST.

A.B. 1904, A.M. 1905. — Student of Classical Archaeology in Athens. Assistant in English, and student of Romance Languages, at this University.

JAMES SAMUEL MARTIN.

A.B. (*Washington Univ., Mo.*) 1904, A.M. (*Harvard Univ.*) 1905. — Res. Gr. Stud., 1904-05.

Student of Classical Archaeology, in Athens.

1904-05.

1905-06.

Edward Austin Fellowships (1900).

MAULSBY WILLETT BLACKMAN.

A.B. (*Univ. of Kansas*) 1901, A.M. (*ibid.*) 1902, PH.D. (Biology) 1905.—Student of Zoölogy, at this University.
Instructor in Biology, Medical College of Western Reserve University.

ARTHUR STANLEY PEASE.

A.B. 1902, A.M. 1903, PH.D. (Classical Philology) 1905.—Res. Gr. Stud., 1902-05.—Charles Haven Goodwin Scholar, 1902-03.—Student of Classical Philology, at this University.
Rogers Fellow, in Europe.

HERBERT THOMAS POLAND.

A.B. 1903, A.M. 1904.—Res. Gr. Stud., 1903-05.—Student of English, at this University.
Rogers Fellow, in Europe.

GEORGE WALLACE UMPHREY.

A.B. (*Univ. of Toronto, Ont.*) 1900, A.M. (*Harvard Univ.*) 1901, PH.D. (Romance Philology) 1905.—Res. Gr. Stud., 1900-01 and 1904-05; Non-Res. Stud., 1903-04.—John Harvard Fellow, 1903-04.—Student of Romance Languages, at this University.
Instructor in Romance Languages, University of Cincinnati.

Nelson Robinson Jr. Fellowship (1902).

CHARLES ROBERT WAIT.

A.B. 1903, A.M. 1904.—Res. Gr. Stud., 1903-04; Non-Res. Stud., 1904-05.—Austin Scholar in Architecture, 1903-04.—Student of Architecture, in Europe.
Continuing his studies in Europe, as Nelson Robinson Jr. Fellow.

ARTHUR MANGUN BANTA.

A.B. (*Indiana Univ.*) 1903, A.M. (*ibid.*) 1904.
Student of Zoölogy, at this University.

LAWRENCE MARTIN.

A.B. (*Cornell Univ., N. Y.*) 1904.
Student of Geology at this University.

CLARENCE PERKINS.

A.B. (*Syracuse Univ., N. Y.*) 1901, A.M. (*Harvard Univ.*) 1904.—Res. Gr. Stud., 1903-05.—Thayer Scholar, 1904-05.
Student of History at this University.

CHARLES IRVING WOOD.

A.B. (*Williams Coll.*) 1903, A.M. (*Harvard Univ.*) 1904.—Res. Gr. Stud., 1903-05.—Shattuck Scholar, 1904-05.
Student of German at this University.

Fellowship of the Cercle Français de l'Université Harvard (1903).

HENRI BAULIG.

Bach.-ès-lettres (*Univ. of Paris, France*) 1895, Lic.-ès-lettres (*ibid.*) 1900.—Student of Geography, at this University.
Instructor in French, at this University.

MÉDÉRIC TOURNEUR.

Bach.-ès-lettres (*Univ. of Caen, France*) 1898, Lic.-ès-lettres (*ibid.*) 1900, Diplôme d'études supérieures (*Univ. of Paris, France*) 1902, Agrégé d'histoire et de géographie (*ibid.*) 1905.
Student of Ancient History and Archaeology at this University.

Julia Amory Appleton Fellowship (1904).

LEROY PEARL BURNHAM.

A.B. 1902, A.M. 1903.—Res. Gr. Stud., 1902-03; Non-Res. Stud., 1905-06.—Austin Scholar in Architecture, 1902-03.—Nelson Robinson Jr. Fellow, 1903-04.—Student of Architecture, in Paris.
Continuing his studies in Paris.

HARRY EDWARD WARREN.

A.B. 1904, A.M. 1905.—Res. Gr. Stud., 1904-05.—Austin Scholar in Architecture, 1904-05.
Student of Architecture, in Rome.

The John Tyndall Scholarship, with a stipend of five hundred dollars, is included in the foregoing list, since though nominally a scholarship it is of the same rank as the fellowships. For the converse reason the George W. Dillaway Fellowship, with a stipend of two hundred dollars, is not included in the list.

The Faculty has long regarded the fellowships as useful for two distinct classes of students: first, for men who have ordinarily received the Doctor's degree, and wish to continue, for a year or two, special studies or researches, before taking up their professional work;

and, secondly, for men of promise, but, from an academical point of view, younger than the former class, whom the stipends of the fellowships will enable to carry on advanced studies, either here or at some other university. Of the twenty-eight fellows in 1904-05, five clearly belong to the former class, all being holders of the Harvard degree of Doctor of Philosophy when they entered upon their fellowships. Of the second class, five took at Harvard the degree of Doctor of Philosophy and one that of Master of Arts at the close of the year. Twelve of the fellows in 1904-05 are continuing their studies, six abroad and six here — all being again holders of fellowships, except two who have entered the Law School. Sixteen are engaged in teaching: five at other universities; eleven are teaching here, seven being instructors and four assistants. Of these eleven about half are continuing their studies also.

The following table (XVI) gives the usual statistics relative to the applications for fellowships and scholarships and the appointments thereto for the three successive years, 1903-04, 1904-05, 1905-06:—

TABLE XVI. — FELLOWSHIPS AND SCHOLARSHIPS (1903-06).

1. *Applications and Appointments.*

	1903-04.	1904-05.	1905-06.
Spring applicants for reappointment or promotion	42	51	46
Spring applicants for a first appointment	202	207	211
Later applicants	60 304	58 316	44 301
Appointed to fellowships	23	22	21
Appointed to scholarships	55	59	54
Appointed instructors, teaching fellows, or assistants	23 101	22 103	25 100
Deduct for repetitions	3	4	2
	98	99	98
Entered or continued in the Graduate School of Arts and Sciences without receiving any of the above-named appointments	62	73	38
Entered undergraduate classes of Harvard College	0	0	1
Entered other Departments of the University	3 65	2 75	1 40
Applicants who were at the University in the year following their applications	163	174	138
Applicants not at the University in that year	141	142	163
	304	316	301

2. *Classification of Applicants and Appointees.*

	1903-04.		1904-05.		1905-06.	
	Applicants.	Appointees.	Applicants.	Appointees.	Applicants.	Appointees.
Students of Philology	118	24	138	23	122	25
Students of Philosophy, History, or Political Science	100	23	92	29	85	21
Students of Mathematics, Physics, and Chemistry	52	19	51	17	61	15
Students of Natural History	30	9	28	8	25	11
Students of other branches, or unclassified	4	3	7	4	8	3
	304	78	316	81	301	75
Students in Graduate School of Arts and Sciences	93	41	108	42	99	50
Students in Harvard College	42	16	25	6	19	3
Students in other Departments of the University	7	2	11	5	3	2
Former students in some Department of the University	33	9	23	5	26	2
Persons never previously members of the University	129	10	149	23	154	18
	304	78	316	81	301	75
Harvard Bachelors of Arts or Science, not previously graduated elsewhere	32	16	32	12	36	16
Harvard Bachelors of Arts or Science, previously graduated elsewhere	11	2	13	2	14	3
Graduates of other institutions, not Harvard Bachelors of Arts or Science	204	44	219	56	209	50
Undergraduates of Harvard College or Lawrence Scientific School, not already graduated elsewhere	36	14	28	9	22	5
Undergraduates of other institutions and other non-graduates	21	2	24	2	20	1
	304	78	316	81	301	75

Of the applicants in 1905 for appointments to be held during the current year (1905-06), about forty-four per cent. came to the University or remained in it. Of those who were disappointed, twenty per cent. are nevertheless students of the University in 1905-06; last year this proportion was thirty-four per cent.; in 1903-04, it was thirty-two per cent.; in 1902-03, it was thirty-one per cent. Other universities appear to be appealing more successfully than ever to our proper clientele.

Of the whole number of applicants, one in three was successful, though in a few cases applicants for scholarships or fellowships received instead assistantships or instructorships (including teaching fellowships). The applicants in philology, philosophy, history, and economics were more than twice as numerous as those in science. Of the applicants who received appointments, in philology one in five was successful; in philosophy, history, and economics one in four; in mathematics, physics, and chemistry one in four; and in geology and biology nearly one in two. Of the applicants who had previously been in the School one-half were successful. Of those who had never been in the University one in eight was successful. Of applicants who had not been in the School, but were students in Harvard College or had been students in some other department of the University about one in seven was successful. Of Harvard Bachelors of Arts, more than one in three were successful, while of the large number that held no first degree from Harvard University, about one in four was successful. Statistics continue to show that it is an advantage to the applicant to hold the Harvard degree of Bachelor.

INSTRUCTORSHIPS, TEACHING FELLOWSHIPS, AND ASSISTANTSHIPS.

Several members of the School, besides carrying on their studies, serve the University as salaried teachers or assistants under the Faculty of Arts and Sciences, by regular appointment of the Corporation. The amount of their work as students varies from a half-course, which is technically one-eighth of full work, to four courses or more. There were in 1904-05 fifty-four such persons: five of them were Instructors, twenty-one were Austin Teaching Fellows, and twenty-eight were Assistants. In the current year there are (in November, 1905) sixty-nine such persons: twelve Instructors, twenty Austin Teaching Fellows, and thirty-seven Assistants. Besides the twenty Austin Teaching Fellows in the School, there are three in the Lawrence Scientific School, and five others who are not registered at all as students of the University.

Of the three hundred and ninety-five members of the School in 1904-05, one hundred and forty-four — nearly thirty-seven per cent. — received stipends, either as teachers, assistants, fellows, or scholars. (The percentage in 1903-04 was the same; in 1902-03, it was forty-three; in 1901-02, it was forty; in 1900-01, it was thirty-three.) Furthermore, one other member of the School, as well as eleven of these, held paid proctorships, parietal or examination.

A NEW SCHOLARSHIP.

One new scholarship to which, under certain conditions, members of the School are eligible, was founded in 1904-05.

Charles Wyman Scholarship. — Mrs. Sarah Wyman Whitman, of Boston, bequeathed to the College ten thousand dollars, "for the maintenance of a scholarship in History to be known as the Charles Wyman Scholarship," after the founder's father. This scholarship, which has a stipend of four hundred dollars, will ordinarily be awarded to an advanced student in History registered in Harvard College, but in the absence of a suitable candidate there the Faculty is authorized to award it to a member of the Graduate School of Arts and Sciences.

The Association of American Universities, which was founded in 1900 for the promotion of so-called "graduate" studies, but has since widened its scope to consider all advanced instruction, met for its sixth annual conference on January 12-14, 1905, at the Johns Hopkins University, Professor Ames, Dean of the Law School, and Professor Carver representing this University. There were papers on "The Organization of Higher Technical Education," "Co-instruction in Graduate Schools," and "The Opportunities for Higher Instruction and Research in State Universities."

The new regulations with reference to the administration of the degree of Master of Arts, by which the supervision of programmes for this degree may be given to the various Divisions and Departments (see Report for 1903-04, p. 165), have abundantly proved the wisdom of their enactment. The programmes for the degree are more rationally arranged and more successfully carried out than ever before, and the increased direct personal supervision exercised over the candidates by their instructors has been fruitful in good results.

Important action with reference to the School was taken by the Corporation and Overseers upon the recommendation of the University Council and of the Faculty of Arts and Sciences, by which the name of the School was changed from "The Graduate School" to "The Graduate School of Arts and Sciences." The expression "The Graduate School" was not anomalous so long as this School alone required an academic degree for admission; when, however, the Schools of Law, Medicine, and Divinity made a similar requirement, the name became inappropriate, at least in the ordinarily accepted use

of it. In the new name the word "Graduate" is retained to distinguish the School from Harvard College and the Lawrence Scientific School, which are, in a sense, the Undergraduate Schools of Arts and Sciences. If, however, the day should arrive when the term "School" can be used at this University with reference to "Graduate" institutions only, the Graduate School of Arts and Sciences — as has been suggested by others — might well drop its qualifying term and become "The School of Arts and Sciences."

The formal opening meeting of the School for the current year, 1905-06, was held on Thursday evening, October 5, in the Faculty Room. The principal address was given by Professor Toy, on "Ethical Influences in University Life" (printed in the *International Journal of Ethics*, Vol. XVI, January, 1906, pp. 145-157). Briefer addresses were made by Professor Wilhelm Ostwald, of the University of Leipsic, visiting professor at this University, by President Eliot, and by Mr. W. A. Colwell, President of the Graduate Club. The addresses were followed by a reception.

JOHN HENRY WRIGHT, *Dean*.

THE DIVINITY SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — AS Acting Dean of the Divinity School I have the honor to present the following report for the year 1904-05.

The work of the year was carried through in accordance with the schedule of courses given on pages 172-174; Professor Ropes took the first half-year, and Professor Peabody, the second, as sabbatic semesters. After the appointment of Professor Peabody to lecture in Berlin as the first American representative under the arrangement for academic reciprocity, the present Acting Dean was appointed to serve during his absence.

All of the members of the Faculty of the Divinity School, with the exception of Professor Hale, whose department, Homiletics, is more strictly technical, are now members of the Faculty of Arts and Sciences, offering courses which are open to students in the College and the Graduate School. Students of the Divinity School also attend courses given by members of the Faculty of Arts and Sciences. The interchange of instruction between the two Faculties in 1904-05 was as follows : —

Divinity students taking courses offered only by the Faculty of Arts and Sciences, 1904-05 : —

Semitic	2 elections.
Greek	1 “
Classical Philology	1 “
English	2 “
German	2 “
Economics	7 “
Philosophy	25 “
Fine Arts	2 “
Anthropology	1 “
	<hr/> 48

Non-Divinity students electing courses offered by the Divinity School, 1904-05 : —

Old Testament	53 elections.
New Testament	28 “
Church History	32 “
History of Religions	81 “
Theology	5 “
Ethics	115 “
	<hr/> 314 “

The registration for the year was 43, as against 52 in 1903-04, a decrease of 9 students. It should be noted, however, that this shrinkage was wholly in the class of Special Students, which numbered 7 last year and 16 in 1903-04.

The forty-three students enrolled in the year 1904-05 were distributed as follows :—

Resident Graduates	14
Senior Class	5
Middle Class	6
Junior Class	11
Special Students	7
Total	43

Twenty-five colleges were represented as follows :—

Allegheny College	1	University of Maine	1
Boston University	1	University of Michigan	1
Brown University	3	Mount Allison University	1
University of Buffalo	1	Mount Union College	1
University of Chicago	1	University of North Carolina	1
Cornell University	1	Ohio Wesleyan University	1
Dartmouth College	2	University of Paris, France	1
DePauw University	1	Trinity College, Conn.	1
Emory College	1	Trinity College, N. C.	1
Eureka College	2	Wesleyan University	1
Harvard University	11	University of Wisconsin	1
Hiram College	1		39
Iowa State University	1	Counted more than once	4
Kentucky University	1		35

Ten theological seminaries were represented as follows :—

Boston University	4
Concordia Theological Seminary	1
Crozer Theological Seminary	1
Eden Theological Seminary	1
McCormick Theological Seminary	1
Meadville Theological School	2
Nisky Moravian Theological Seminary	1
Oberlin College	1
Tufts College	1
Yale University	2
	15
Counted more than once	1
	14

Seven members of the School received the degree of S. T. B., six the degree of A. M., and one the degree of Ph.D.

The seventh session of the Summer School of Theology was held from July 5 to July 21, the entire session of forty-five lectures being devoted to the subject of The Bible. The seven sessions of the School have had the following record of attendance:—

	Men.	Women.	Total.
1899	96	9	105
1900	52	2	54
1901	84	5	89
1902	74	4	78
1903	54	4	58
1904	46	1	47
1905	54	7	61

The distribution by denomination, in the case of ministers attending in the seven years, was as follows:—

	Orthodox Congregational.	Unitarian Congregational.	Episcopalian.	Universalist.	Baptist.	Presbyterian.	Disciples.	Methodist.	Free Baptist.	Lutheran.	Christian Connection.	German Reformed.	Moravian.	Evangelical Association.	Dutch Reformed.
1899..	27	17	16	14	5	3	..	..	..	..	..	..	..	..	..
1900..	17	6	3	14	6	..	3	3	..	..	..	..	..	..	..
1901..	28	12	11	14	5	2	..	10	1	1	..	..	..	..	..
1902..	28	7	15	3	5	1	1	8	1	1	..	..	..	..	..
1903..	21	4	10	5	..	5	3	1	1	..	1	1	1	..	..
1904..	13	6	11	1	7	1	..	3	1	..	1	..	..	1	..
1905..	7	4	14	3	5	1	5	9	..	..	1	3	..	..	1
	141	56	80	54	33	13	12	34	4	2	3	4	1	1	1

The following is a list of the Courses of Instruction offered in the School in the year 1904-05. With each course is a statement of the number of students electing it from the Divinity School, the Graduate School, Harvard College, the Lawrence Scientific School, and Radcliffe College. There is appended to the list of regular courses a list of the lectures of the Summer School.

COURSES OF INSTRUCTION.

OLD TESTAMENT.

1. Professor LYON. — Hebrew. Davidson's Introductory Hebrew Grammar. Explanation of parts of Genesis and of the Book of Psalms. 2 Div., 11 Col.
2. Professor TOY. — Hebrew (second course). — Syntax. Interpretation of parts of the Prophets and the Poetical Books. Text-criticism. 2 Div.
- 3 *hf.* Dr. HAYNES. — Jewish Aramaic. Marti's Biblisch-Aramäische Grammatik. — Interpretation of parts of Ezra, Daniel, and the Targums. *Half-course.* 1 Div., 2 Col.
- 3a *hf.* Dr. HAYNES. — Classical Aramaic (Syriac). *Half-course.* 3 Div., 1 Col.
4. Professor LYON. — History of Israel, political and social, till the capture of Jerusalem by the Romans. 2 Div., 2 Gr., 29 Col., 1 Sc.
5. Professor G. F. MOORE. — History of pre-Christian Hebrew Literature. 5 Div., 2 Col.
6. Professor TOY. — History of the Hebrew Religion, with comparison of other Semitic religions. 10 Div., 1 Gr., 2 Col.
7. Dr. HAYNES. — Assyrian. 1 Col.
8. Professor LYON. — Assyrian (second course). 1 Col.
20. Research courses. The instructors will arrange and supervise for any properly prepared student a line of special study on such topic as may be agreed on. 1 Div.

NEW TESTAMENT.

- 2 *hf.* Professor ROPES. — Introduction to the Study of the New Testament. — The teaching of Jesus Christ, and the theological and ethical ideas of the New Testament Writers. *Half-course.* 3 Div., 25 Col.
- 7 *hf.* Professor ROPES. — The Apostolic Age. — Study of the Acts of the Apostles. *Half-course.* 2 Div., 2 Gr., 1 Col.
- 8 *hf.* Professor ROPES. — The Epistles of Paul. Selected portions. *Half-course.* 3 Div.
- 15 *hf.* Professor FENN. — The Theological Method of Jesus and Paul. *Half-course.* 8 Div.
20. Professor ROPES. — Advanced study and research. The instructor will, in the second half-year, arrange and supervise special work of competent advanced students on such topics of New Testament study as they may desire to undertake.

CHURCH HISTORY.

1. Professor EMERTON. — General Church History to the end of the Seventeenth Century. 2 Div., 2 Gr., 4 Col.
3. Professor EMERTON. — The Era of the Reformation in Europe, from the rise of Italian Humanism to the close of the Council of Trent, 1550 to 1563. 11 Gr., 8 Col.

4. Professor E. C. MOORE. — The Church since the Reformation.
As full course, 1 Div. As half-course, 2 Div., 2 Gr., 8 Col., 1 Rad.
- 6¹/₂ Professor EMERTON. — Selected Topics from the Canon Law. *Half-course.* 1 Col.
- 7¹/₂ Professor E. C. MOORE. — History of Christian Literature until the Time of Augustine. *Half-course.* 2 Div.
20. Professor EMERTON. — Advanced study and research.

HISTORY OF RELIGIONS.

2. Professor G. F. MOORE. — History of Religions in Outline.
As full course, 7 Div., 5 Gr., 22 Col., 1 Sc.
As half-course, 1 Div., 6 Gr., 46 Col., 1 Sc.

THEOLOGY.

- 1¹/₂ Professor FENN. — Theism. *Half-course.* 11 Div.
- 2¹/₂ Professor FENN. — Outlines of Systematic Theology. *Half-course.* 11 Div.
- 3¹/₂ Professor FENN. — New England Theology. *Half-course.* 8 Div.
- 5¹/₂ Professor FENN. — The History and Philosophy of Christian Mysticism. *Half-course.* 9 Div.
6. Professor E. C. MOORE. — The History of Christian Thought since Kant, including a discussion of the present state and tendencies of theological thought. 23 Div., 1 Gr., 4 Col.
20. Professor E. C. MOORE. — The Theology of Ritschl and of the Ritschlian School, upon the basis of the works of Ritschl, Herrmann, and Kaftan. 4 Div.

ETHICS.

- 1¹/₂ Professor PEABODY, assisted by Dr. ROGERS. — Introductory Course. The Ethics of the Social Questions. — The modern social questions: Charity, the Family, Temperance, and various phases of the Labor Question, in the light of ethical theory. — Lectures, special researches, and required reading. *Half-course.* 11 Div., 7 Gr., 99 Col., 5 Sc.
20. Professor PEABODY. — Ethical Seminary. Subject for the year: The Ethics of the New Testament.
As full course, 6 Div., 1 Gr. As half-course, 8 Div., 2 Gr., 1 Rad.
- 20⁶. Professor PEABODY. — Seminary in the Ethics of the Social Questions. The instructor will direct the special research of competent students in the ethics of the social questions.

HOMILETICS AND PASTORAL CARE.

- 1 *hf.* Asst. Professor HALE. — The Structure and Analysis of Sermons. *Half-course.* 6 Div.
2. Professors PEABODY, E. C. MOORE, and FENN, and Asst. Professor HALE. — Each student prepares eight sermons during the year, of which some are preached before the class and criticized by students and instructor [in Appleton Chapel], and the rest are criticized by the instructor privately. Students in this course should already have taken Homiletics 1 or its equivalent. The course may be taken a second time as a half-course.
As full course, 4 Div. As half-course, 6 Div.
- 3 *hf.* Asst. Professor HALE. — The Minister as Pastor, and the Direction of Church Activities. *Half-course.* 8 Div.
- 5 *hf.* Asst. Professor HALE. — The Homiletical Use of the Bible. *Half-course.* 8 Div.
20. Asst. Professor HALE. — Homiletical Seminary. (Not counted for a degree.)

ELOCUTION.

1. Mr. WILLARD. — Voice Training and the Elements of Form in Speaking. (Not counted for a degree.) 8 Div.
- 2 *hf.* Asst. Professor WINTER. — Sermon Delivery, Scripture Reading, Oral Discussion. *Half-course.* 4 Div.

SUMMER SCHOOL OF THEOLOGY.

- Professor D. G. LYON. — Five lectures: The Hebrew Monarchy from 980 to 586 B.C.
- Professor C. H. TOY. — Five lectures: The Old Testament Prophetic Thought.
- Professor C. C. TORREY. — Five lectures: The Poems of Deutero-Isaiah.
- Professor G. F. MOORE. — Five lectures: Jewish Literature from 200 B.C. to 100 A.D.
- Professor S. SCHECHTER. — Five lectures: Early Rabbinic Theology.
- Professor H. S. NASH. — Five lectures: Alexandrian Theology in Relation to the Christianity of the Apostolic Age. A Study in Comparative Idealism.
- Professor J. H. ROPES. — Five lectures: The Epistles of Paul to the Colossians and Ephesians.
- Professor W. W. FENN. — Five lectures: The Theological Method of Jesus.
- Professor J. W. PLATNER. — Five lectures: Relations of the New Testament Writings to other Early Christian Literature.

There were added to the Library 293 volumes and 19 pamphlets by purchase, 281 volumes and 342 pamphlets by gift. October 1, 1905, there were in the Library 34,909 volumes and 8,851 pamphlets. During the year 941 titles were catalogued in the author

catalogue and 107 titles in the subject catalogue. There were borrowed from the stack for home use 1,017 volumes, from the stack for hall use 463 volumes, from the reserved books for over-night use 610 volumes. Much of the time of the Librarian was given to the preparation of a new edition of the General Catalogue of the School, which appeared in June, 1905.

A bronze Memorial Tablet to Dean Everett has been placed on the north wall of Divinity Chapel at the left of the pulpit. This tablet was procured by a Committee appointed at the meeting of the (Unitarian) Ministers' Institute in 1902, consisting of Rev. Paul Revere Frothingham, Rev. L. C. Cornish, and Rev. Bradley Gilman, who received contributions from many friends and former pupils of Dr. Everett. It is hoped that this tablet with its significant inscription, composed by Mr. Frothingham, will enable students to identify some of the most precious elements in the growing tradition of the School and recognize the voice of him who "being dead, yet speaketh" and will speak for years to come in this School and in many an American pulpit.

W. W. FENN, *Acting Dean.*

THE LAW SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—I have the honor of presenting my report upon the Law School for the academic year 1904-05.

The table on pages 178, 179 gives the courses of study and instruction during the year, the text-books used, the number of

Year.	Whole No. of Students.	Total of College Graduates.	Harvard Gradu- ates.	Graduates of other Colleges.	Non- Gradu- ates.	Percent. of College Graduates.	No. of Col- leges rep- resented.
1870-71	165	77	27	50	88	47	27
1871-72	188	70	34	36	68	51	25
1872-73	117	66	34	32	51	56	25
1873-74	141	86	49	37	55	61	25
1874-75	144	82	63	19	62	57	18
1875-76	173	93	60	33	80	54	25
1876-77	199	116	74	42	83	58	30
1877-78	196	121	80	41	75	62	30
1878-79	169	109	71	38	60	64	24
1879-80	177	118	90	28	59	66	20
1880-81	161	112	82	30	49	70	19
1881-82	161	99	66	33	62	61	22
1882-83	188	93	58	35	45	67	32
1883-84	150	105	75	30	45	70	25
1884-85	156	122	85	37	34	78	31
1885-86	158	122	83	39	36	77	29
1886-87	188	143	88	55	45	76	34
1887-88	225	158	102	56	67	70	32
1888-89	225	158	105	53	67	70	32
1889-90	262	189	122	67	73	72	41
1890-91	285	200	135	65	85	70	33
1891-92	370	257	140	117	118	69	48
1892-93	405	266	132	134	139	66	54
1893-94	367	279	129	150	88	76	56
1894-95	413	310	139	171	108	75	74
1895-96	475	380	171	209	95	80	82
1896-97	490	408	186	222	82	83	82
1897-98	551	490	229	261	61	89	77
1898-99	564	503	212	291	61	89	78
1899-00	613	557	236	321	56	91	67
1900-01	655	605	252	353	50	92	83
1901-02	633	584	247	337	49	92	92
1902-03	644	600	241	359	44	93	94
1903-04	743	695	272	423	48	94	111
1904-05	766	711	286	425	55	93	114
1905-06	725	714	295*	419	11	98	118

* 29 Harvard Seniors who have completed the full College course, but have not received their diplomas, are reckoned as graduates.

exercises per week in each course, and the number of students who offered themselves for examination in each course at the end of the year.

The table on page 176 exhibits the growth of the School during the last thirty-six years, in the number of students, the number and percentage of college graduates, and in the number of colleges represented by their graduates. The figures for the current year will be slightly increased by later entries.

During the twelve months from October 1, 1904, to October 1, 1905, 6,540 bound volumes and 198 pamphlets were added to the library. The library contained, October 1, 1905, about 88,500 volumes and 8,900 pamphlets. The accessions of the past year include 1,300 volumes containing the full printed records of cases decided by the Supreme Court of the United States during the last twenty years. These rare and valuable records, a very welcome addition to the Library, came to the School by the generous gift of Mrs. Horace Gray, the widow of the late Mr. Justice Gray. The continuation of the series of these records for the present is assured by the courtesy of Mr. Justice Holmes, Mr. Justice Gray's successor in the Supreme Court.

The collection of portraits of judges and lawyers has been increased, during the past year, by eight engravings and two etchings. The portraits now hanging on the walls of Austin Hall number 398, namely, 23 oil paintings, 255 engravings, 23 etchings, 72 photographs, 1 water-color, 2 pencil sketches, 19 lithographs, and 8 bas-reliefs. There are also 34 trial scenes and views of law buildings.

It is a pleasure to report that the printing of the first volume of the catalogue of our law books has begun. This volume will contain the titles of all our books upon the law of the United States, England, Scotland, Ireland, and the British Colonies. Volume II will exhibit our collection of books upon the law of other countries.

The Law Faculty takes great comfort in the belief that work upon the much needed new building for the School will begin early in the spring. The final plans, which have been approved by the Committee of Architects, are much more satisfactory than any of the plans previously considered.

Instructors.	Studies and Text-books.	Exercises per week.	Number of students examined.
	First Year.		
Prof. Williston	Contracts. Williston's Cases on Contracts	3	281
Asst. Prof. Wyman	Property. Gray's Cases on Property, vols. 1, 2	2	287
Prof. Wambaugh	Torts. Cases on Torts: Ames, vol. 1 (2d ed.), Smith, vol. 2	2	278
Prof. Smith	Criminal Law and Procedure. Beale's Cases on Criminal Law	2	272
Prof. Beale	Civil Procedure at Common Law. Ames's Cases on Pleading	1	275
	Second Year.		
Prof. Wambaugh	Agency. Wambaugh's Cases on Agency	2	29
Prof. Brannan	Bills of Exchange and Promissory Notes. Ames's Cases on Bills and Notes	2	12
Prof. Gray	Evidence. Thayer's Cases on Evidence (2d ed.)	2	246
Asst. Prof. Warren	Jurisdiction and Procedure in Equity. Ames's Cases in Equity Jurisdiction, vol. 1	2	286
Prof. Beale. Asst. Prof. Warren	Property. Gray's Cases on Property, vols. 3, 4	2	241
Prof. Williston	Sales of Personal Property. Williston's Cases on Sales	2	212
Prof. Ames	Trusts. Ames's Cases on Trusts (2d ed.)	2	225
Mr. Olson	Admiralty. Ames's Cases on Admiralty	1	8
Prof. Williston	Bankruptcy. Williston's Cases on Bankruptcy	1	2
Asst. Prof. Wyman	Carriers. Beale and Wyman's Cases on Public Service Companies	1	12
Prof. Brannan	Damages. Beale's Cases on Damages	1	1
Mr. Hollis	Insurance. Wambaugh's Cases on Insurance	1	4
Prof. Beale	International Law. Scott's Cases on International Law	1	2
Prof. Smith	Persons. Smith's Cases on Persons	1	6

Third Year.

Prof. Beale	Beale's Cases on the Conflict of Laws	2	170
Prof. Wambaugh	Conflict of Laws. Thayer's Cases on Constitutional Law	1	19
Asst. Prof. Warren	Constitutional Law. Smith's Cases on Private Corporations (2d ed.). Smith's Cases on Municipal Corporations	2	195
Prof. Brannan	Partnership. Ames's Cases on Partnership	2	24
Prof. Gray	Property. Gray's Cases on Property, vols. 5, 6	2	77
Asst. Prof. Wyman	Suretyship and Mortgage. Ames's Cases on Suretyship. Wyman's Cases on Mortgage	2	179
Prof. Wambaugh	Agency. Wambaugh's Cases on Agency	2	18
Prof. Brannan	Bills of Exchange and Promissory Notes. Ames's Cases on Bills and Notes	2	128
Prof. Gray	Evidence. Thayer's Cases on Evidence	2	16
Asst. Prof. Warren	Jurisdiction and Procedure in Equity. Ames's Cases in Equity Jurisdiction, vol. 1	2	6
Prof. Beale. Asst. Prof. Warren	Property II. Gray's Cases on Property, vols. 3, 4	2	9
Prof. Williston	Sales of Personal Property. Williston's Cases on Sales	2	18
Prof. Ames	Trusts. Ames's Cases on Trusts (2d ed.)	2	6
Mr. Olson	Admiralty. Ames's Cases on Admiralty	1	38
Prof. Williston	Bankruptcy. Williston's Cases on Bankruptcy	1	47
Asst. Prof. Wyman	Carriers. Beale and Wyman's Cases on Public Service Companies	1	58
Prof. Brannan	Damages. Beale's Cases on Damages	1	19
Prof. Ames	Equity III. Ames's Cases in Equity Jurisdiction, vol. 2	1	148
Mr. Hollis	Insurance. Wambaugh's Cases on Insurance	1	24
Prof. Smith	Persons. Smith's Cases on Persons	1	29

JAMES BARR AMES, Dean.

THE FACULTY OF MEDICINE.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR, — As Dean of the Faculty of Medicine I have the honor to submit the following report for the academic year 1904–05.

A gift of five thousand dollars from an unknown donor, received through Dr. F. C. Shattuck, for the establishment of a fund, the income of which may be paid to meritorious and needy students, will enable the Committee on Students' Aid to render assistance to students which is oftentimes greatly needed.

Owing to an accumulation of interest, the income of the Lewis and Harriet Hayden Scholarship and the Charles B. Porter Scholarship will each amount to two hundred and twenty-five dollars in the future.

The change that was made last year of placing the graduate and summer courses in charge of one committee has proved to be of great advantage.

During the year 139 men were recommended to the Corporation for degrees as follows :—

Medical School . .	{	For the degree of M.D. (February)	15
		“ “ “ (June)	67
		“ “ “ <i>cum laude</i> (June) . .	25
Dental School . .	{	For the degree of D.M.D. (February) . . .	2
		“ “ “ (June)	26
		“ “ “ <i>cum laude</i> (June) . .	4
Total			139

The Committee on the Course of Study and the Committee on Medical Education, acting as a joint committee, continued their work of preparing the plans for the elective fourth year, and their report was submitted in print to the Faculty at the February meeting. After discussion, it was unanimously voted to adopt an entire elective course for the fourth year.

The advocates of this change in the curriculum favored it for two reasons : some thought it would be advisable to allow students who had made up their minds to go into some special, rather than general practice, to prepare themselves in the branches to which they intended to devote their lives ; others thought that students who preferred laboratory to clinical courses should be allowed to select work along those lines. Those who were not in favor of the change opposed it

from the standpoint that four years was not too long a period to be devoted to a required course, and that a student should not be allowed to make any departure from the regular curriculum until he had received his degree.

The choice of studies made by the students for the coming year, therefore, has proved somewhat of a surprise, and the following facts are interesting.

In 1904-05 the fourth class, which numbered sixty-two students, was required, in addition to the regular course, to elect studies amounting to three hours of examination. The fourth class for the coming year, numbering sixty-three students, has been required to elect eight half-courses, representing one thousand hours of work. The following table shows the choice of electives made by the students under the latter plan, in comparison with the required and elective work of the previous year.

	1904-05.	1905-06.
	No. of Students electing courses.	No. of Students electing courses.
Clinical Medicine	Required	63
Theory and Practice	No elec. offered	46
Surgery	Required	61 { Including Surgery & Operative Surgery
Operative Surgery	43	
Obstetrics	No elec. offered	41 { Including Obstetrics & Operative Obstetrics.
Operative Obstetrics	50	
Pediatrics	No elec. offered	58
Orthopedics	27	32
Gynaecology	11	28
Anatomy	11	33
Dermatology	25	10 (Including Syphilis)
Neurology	6	13 (Including Psychiatry)
Pathology	No elec. offered	17
Genito-urinary Surgery	No elec. offered	9
Neuro-pathology	No elec. offered	3
Laryngology	No elec. offered	5
Clinical Surgical Pathology	2	4
Ophthalmology	5	1
Hygiene	2	1
Bacteriology	1	2
Otology	2	
Clinical Chemistry	3	
Histology of Nervous System	1	
Physiology	1	
Surgical Pathology	No elec. offered	5

A careful examination of the table just given shows that, with an unlimited choice of subjects for the coming year, the students have practically chosen to continue the same work which was heretofore required. They have not elected specialties and have shown no desire to select laboratory in preference to clinical work. In other words, they have shown that they prefer to continue their preparation for the general practice of their profession.

The establishment of an elective system for the fourth year will greatly increase the amount of work required of the instructor, but it has not been found necessary to make any additional appointments.

WILLIAM L. RICHARDSON, *Dean.*

THE MEDICAL SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR, — As Dean of the Medical School I have the honor to submit the following report for the academic year 1904–05.

The Administrative Board was constituted as follows : Drs. W. L. Richardson, J. C. Warren, E. S. Wood, F. C. Shattuck, W. F. Whitney, C. M. Green, C. Harrington, F. B. Mallory, and W. B. Cannon.

Four lectures were given by Ezra R. Thayer, LL.B., on Thursday afternoons in March, on the relation of the medical profession to the law and the courts. These lectures were delivered to the fourth class, but students of other classes, whose work did not conflict, were permitted to attend.

Building. — No changes have been made in the building during the past year, and only such repairs as were necessary for its preservation.

Anatomy. — The work of original research in the department has been, if anything, more assiduous than usual, but it so happens that very few papers have been published during the school year.

The following represents the work done in the department, and is of more than ordinary importance :—

The size of the articular surfaces of the long bones as characteristic of sex : an anthropological study. By Professor THOMAS DWIGHT. *American Journal of Anatomy*, Vol. IV, December, 1904.

The mutation theory of organic evolution. By Professor THOMAS DWIGHT. *Science*, Vol. XXI, April 7, 1905.

The applied anatomy of the frontal sinus. By Dr. H. P. MOSHER. *The Laryngoscope*, November, 1904.

The mechanism of the normal spine and its relation to scoliosis. By Dr. R. W. LOVETT. *Boston Medical and Surgical Journal*, Vol. CLIII, September 28, 1905.

Physiology. — There have been published the following papers containing investigations by the laboratory staff :—

The passage of different food-stuffs from the stomach and through the small intestine. By Assistant Professor W. B. CANNON. *The American Journal of Physiology*, Vol. XII, pp. 387–418.

Observations on the alimentary canal after splanchnic and vagus section. By Assistant Professor W. B. CANNON. *The American Journal of Physiology*, Vol. XIII, p. 22.

The effect of cerebral injuries on the bulbar vasomotor centre. By Professor W. T. PORTER and Dr. T. A. STOREY. *The American Journal of Physiology*, Vol. XIII, pp. 22-23.

The curve of lessening conductivity during increasing tonus of the heart. By Professor W. T. PORTER and Mr. F. H. LAMB. *The American Journal of Physiology*, Vol. XIII, pp. 23-24.

The effect of salt solution on ciliary activity. By Dr. S. S. MAXWELL. *The American Journal of Physiology*, Vol. XIII, pp. 154-170.

Gastro-enterostomy and pyloroplasty. An experimental study by means of the Röntgen rays. By Assistant Professor W. B. CANNON and Dr. J. B. BLAKE. *Annals of Surgery*, May, 1905.

Recent advances in the knowledge of the movements and innervation of the alimentary canal. By Assistant Professor W. B. CANNON. Presented before the American Gastro-enterological Association, July 24, 1905. Published in the *Medical News*, New York, Vol. LXXXVI, pp. 923-929.

Auscultation of the rhythmic sounds produced by the stomach and intestines. By Assistant Professor W. B. CANNON. *The American Journal of Physiology*, Vol. XIV, pp. 299-312.

A quantitative circulation scheme, and a rocking key with metal contacts. By Professor W. T. PORTER. *Science*, Vol. XXI, pp. 752-754.

The following have also been published : —

Physiology at Harvard. By Professor W. T. PORTER. Fourth edition. The University Press, Cambridge, Mass., 1905, 117 pp.

Notes for students of physiology in the Harvard Medical School. By Professor W. T. PORTER. 11 pp.

Professor W. T. Porter and Dr. T. A. Storey have determined that cerebral injuries do not cause exhaustion or "shock" of the vasomotor centre. Professor W. T. Porter, with Messrs. H. K. Marks and J. B. Swift, Jr., has found that "shock" is not produced by the stimulation of nerves proceeding from the abdominal cavity. Professor W. T. Porter, with Messrs. C. H. Lawrence, Jr., and L. H. Newburgh, has found that a rise in the tonus of smooth muscle may completely block the passage of a contraction wave. Mr. F. H. Pratt, under the direction of Professor W. T. Porter, has planned apparatus for a new study of the effect of very rapid stimulation on the contraction of muscle. Mr. G. G. Smith, at the suggestion of Assistant Professor W. B. Cannon, has made observations on the presence of anti-pepsin in the intestines. Assistant

Professor W. B. Cannon attended the meeting of the Medical Association of the Greater City of New York and delivered an address on the "Mechanics of Some Digestive Processes," illustrated by lantern slides.

Histology and Embryology.—The usual routine work of instruction has been carried forward, and a number of minor improvements in the course have been introduced. The most important change has been the establishment of a special course in Dental Anatomy and Histology for the benefit of the Dental students. It occupied about six weeks, and proved of so great benefit that the plan will be continued.

The Embryological Collection has been increased by 186 new series of sections of embryos, making a total number of 956. The additions have comprised a number of valuable human embryos, many lizards, and a large number of *Lepidosteus*.

The "Normal plates of the development of the rabbit," forming Part V of Keibel's series of "Normentafeln," has been completed by Professor C. S. Minot and Dr. E. Taylor, and will be published in a few weeks.

The material of the collection has been used during the year for original researches by Dr. J. L. Bremer, of this laboratory, Professor McClure, of Princeton, Professor Edward Fawcett, of Bristol, England, Professor and Mrs. Gage, of Ithaca, and Professor Henry Fox, of Philadelphia.

The following investigations conducted in the laboratory are now in course of publication:—

Development of the lymphatic system in mammals. By Dr. F. T. LEWIS. *American Journal of Anatomy*.

Development of the veins in mammalian limbs. By Dr. F. T. LEWIS. *American Journal of Anatomy*.

Development of the pineal region of the brain in necturus. By Dr. JOHN WARREN. *American Journal of Anatomy*.

The following publications have been issued:—

Genetic interpretations in the domain of anatomy. By Professor C. S. MINOT. *American Journal of Anatomy*, Vol. IV, pp. 243-263.

The implantation of the human ovum in the uterus. By Professor C. S. MINOT. *Transactions of American Gynaecological Society*, 1904, pp. 395-402.

The Harvard embryological collection. By Professor C. S. MINOT. *Journal of Medical Research*, Vol. XIII, pp. 499-522, 1 plate.

It is desired to call attention to the importance of endowing the research work in the laboratory. The large and unique embryological collection which has been gathered offers unequalled opportunities for investigation, and a fund for embryological research is indispensable to enable the School to profit fully by the opportunities now available. Attention may be called especially to the description of the collection published by Professor Minot. Copies of the article may be had upon application.

Bacteriology. — Professor H. C. Ernst and Dr. S. B. Wolbach have given much time to the study of the new Ultra-violet apparatus for photomicrography devised by Dr. Köhler of the Zeiss firm, and obtained by the laboratory through the liberality of Mr. W. H. Walker. The theoretical possibilities opened up by this apparatus for the increase of our knowledge of minute structure appear to be great, and it is planned to devote much time to it during the coming year.

The card catalogue of Bacteriological literature, commenced two years ago, has been continued, and its value has been proved in many instances.

Dr. Langdon Frothingham has been steadily working upon the rapid diagnosis of rabies by the presence of certain cell-inclusions known as "Negri bodies" and upon the determination of the nature of these bodies, together with a study of the anatomical changes in the Gasserion Ganglion. He is also investigating an undescribed, infectious, and fatal disease of chickens.

Dr. C. G. Page published the results of an investigation upon the sterilization of catgut by means of iodine. *Boston Medical and Surgical Journal*, February, 1905, p. 161.

Dr. Page has also begun a series of permanent cultures for exhibition, each culture being killed with formaline vapor and sealed with the blow-pipe flame. These cultures were shown, with others, at the Annual Meeting of the Massachusetts Medical Society, in June, 1905, as a part of the "Diagnosis Clinic."

Dr. F. W. Palfrey has spent much time in the study of the agglutinating reaction of the tubercle bacillus, in regard to which but little work has been done in America. His work has been devoted to (a) the study of tubercle bacilli of different races in cultures adapted to use in this reaction, and (b) testing the reaction in the blood of human beings known to be infected with tuberculosis or in all probability so infected. The results thus far have been strongly against the possibility of establishing a diagnosis by this test.

Dr. F. H. Pratt has spent much time in investigating the occurrence of typhoid bacilli in the feces of patients with typhoid fever, with the aid of the new media of Hiss and Conradi-Drigalski. Different parts of the subject have been investigated, and his work has established the importance of recovering the causative organisms from the infected individual in distinguishing typhoid from paratyphoid fever.

Dr. E. N. Tobey has made the following series of studies: Trypanosomata, especially the undescribed form found in the common newt (*Diemyctulus viridescens*). An attempt to cultivate the varieties obtained is now being made. A new form of gas producing bacillus was isolated from the urine of a case of cystitis and its pathogenesis studied. A study of the cultures of Ameba and typhoid bacilli on the media of Musgrave and Clegg and other self-devised media was made. A study of the pathogenesis and reaction on sugars of a diphtheria bacillus isolated from the middle ear was carried on; and a comparative study of the action on sugars of the diphtheria, pseudo-diphtheria, and xerosis bacilli was made.

Experimental Pharmacology and Therapeutics. — The results of an original research was published under the title, "The action of the active principle of Jamaica dogwood." By Drs. M. V. Tyrode and L. Nelson. *Archive Internationales de Pharmacodynamie et de Therapie*, Vol. 14.

Pathology. — Drs. W. R. Brinckerhoff and E. E. Tyzzer, the members of the expedition sent to Manila for the investigation of small-pox and the study of tropical diseases, have returned. The work of the expedition has been mainly directed to the experimental study of small-pox. By this work the knowledge of the disease and of the immunity which is produced has been materially advanced. Opportunity was also given for the study of varicella and of certain parasites peculiar to the tropics. From the material brought home Dr. Southard has studied the character of the neuroglia of the monkey and has found it similar in morphology and staining reactions to the human neuroglia. This would render possible the experimental study of nervous affections in monkeys, which could not be carried out on the ordinary laboratory animals, owing to the difference between their nervous tissue and that of man. A full report of the work of the expedition has been prepared and will shortly appear.

A number of specimens illustrating various lesions of disease have been preserved in Kaiserling fluid and permanently mounted in gelatin on glass plates. By this method the natural colors of the

tissues are preserved, and the specimens form a valuable addition to the methods of teaching. These specimens were exhibited at the June meeting of the American Medical Association at Portland, Oregon.

The following papers have been published during the past year by members of the department, and by the men working under them in the pathological laboratories of the School and of the Boston City and Massachusetts General Hospitals:—

A case of diffuse encephalitis showing the pneumococcus. By Drs. W. N. BULLARD and F. R. SIMS. *Boston Medical and Surgical Journal*, December, 1904.

Some newer aspects of the pathology of fat and fatty degeneration. By Dr. H. A. CHRISTIAN. *Johns Hopkins Hospital Bulletin*, 1905, Vol. XVI, 1.

Some further observations on leucocytotoxins. By Drs. H. A. CHRISTIAN and T. F. LEEN. *Boston Medical and Surgical Journal*, Vol. CLII, 1905, No. 14.

Glioma of the nose: report of two congenital cases. By Dr. J. P. CLARK. *American Journal of Medical Sciences*, 1905, Vol. CXXIX, p. 769.

The modern conceptions and methods of medical science. By Professor W. T. COUNCILMAN. Read before the Medical Congress at St. Louis, 1904. *American Medicine*, 1904, Vol. VIII, pp. 718-724.

The pathology and bacteriology of acute meningitis. By Professor W. T. COUNCILMAN. *Albany Medical Annals*, March, 1905.

The principles underlying medical education. By Professor W. T. COUNCILMAN. *Journal of the American Medical Association*, 1905, Vol. XLIV, 1472.

Die Protozoen des Scharlachfiebers. By Dr. C. W. DUVAL. *Virchow's Archiv f. Path. Anat.*, 1905, Bd. 179, 485.

Studies on the pneumococcus. By Drs. C. W. DUVAL and P. A. LEWIS. *Journal of Experimental Medicine*, Vol. VII, 1905.

General septicaemia. (Report of blood cultures on five cases.) By Drs. C. W. DUVAL and P. A. LEWIS. *Journal of Medical Research*, Vol. XIII, 1905.

Flies and tuberculosis. By Dr. F. T. LORD. *Boston Medical and Surgical Journal*, 1905, Vol. CLI, p. 651.

Infections of the respiratory tract with influenza bacilli and other organisms, their clinical and pathological similarity and confusion with tuberculosis. By Dr. F. T. LORD. *Boston Medical and Surgical Journal*, 1905, Vol. CLII, pp. 537 and 574.

A contribution to the classification of tumors. (4 plates.) By Professor F. B. MALLORY. *Journal of Medical Research*, 1905, Vol. XIII, pp. 113-136.

The bacteriology of general peritonitis. By Dr. T. J. MANAHAN. *Boston Medical and Surgical Journal*, 1905, Vol. CLII, p. 346.

Anatomical findings in two cases of Korsakoff's symptom-complex. By Dr. F. R. SIMS. *Journal of Nervous and Mental Diseases*, March, 1905.

Outline of neuropathology. By Dr. E. E. SOUTHARD. Fairbanks & Co., November, 1904.

The neuroglia framework of the cerebellum in cases of marginal sclerosis. By Dr. E. E. SOUTHARD. *Journal of Medical Research*, August, 1905.

A case of glioma of the pineal region. By Dr. E. E. SOUTHARD. *American Journal of Insanity*, Vol. LXI, No. 3, 1905.

A study of acute haemorrhagic encephalitis (staphylococcus pyogenes aureus). By Drs. E. E. SOUTHARD and C. W. KEENE. *American Journal of Medical Sciences*, March, 1905.

The bacteriological basis of the surgical technique in wounds associated with tetanus. By Dr. OSCAR RICHARDSON. *Boston Medical and Surgical Journal*, 1905, Vol. CLII, p. 493.

A case of sudden death associated with status lymphaticus. By Dr. OSCAR RICHARDSON. *Boston Medical and Surgical Journal*, 1905, Vol. CLII, p. 280.

Three cases of probable psittacosis. By Drs. H. M. VICKERY and OSCAR RICHARDSON. *Medical News*, 1904, Vol. LXXXV, p. 780.

The life cycle of the organism of dermatitis coccidioides. (3 plates.) By Dr. S. B. WOLBACH. *Journal of Medical Research*, 1904, Vol. XIII, pp. 53-60.

Intracellular fibrils in a malignant tumor of epithelial origin. (2 plates.) By Dr. S. B. WOLBACH. *Journal of Medical Research*, 1905, Vol. XIII, pp. 423-425.

An observation of the occurrence of the bacillus of influenza (bacterium influenzae) in pyelonephrosis. By Dr. J. H. WRIGHT. *Boston Medical and Surgical Journal*, 1905, Vol. CLII, p. 497.

The biology of the microorganism of actinomycosis. (Samuel D. Goss Prize Essay.) By Dr. J. H. WRIGHT. *Journal of Medical Research*, 1905, Vol. XIII, p. 349.

Comparative Pathology.—During the year there have been no important changes, either in the courses of instruction offered, or in the laboratory investigations. Research work has been carried on uninterruptedly in the pathological laboratory in the Bussey Institution and in the antitoxin and vaccine laboratory of the State.

During the year the following work has matured : —

Degrees of susceptibility to diphtheria toxin among guinea-pigs. Transmission from parents to offspring. By Professor THEOBALD SMITH. *Journal of Medical Research*, 1905, Vol. XIII, pp. 341-348. *Proceedings Society Experimental Biology and Medicine*, February, 1905.

The reaction curve of tubercle bacilli from different sources in bouillon containing different amounts of glycerine. By Professor THEOBALD SMITH. *Journal of Medical Research*, 1905, Vol. XIII, pp. 405-408.

Further observations on the transmission of *Sarcocystis muris* by feeding. By Professor THEOBALD SMITH. *Journal of Medical Research*, 1905, Vol. XIII, p. 429.

Note on the stability of the cultural characters of tubercle bacilli with special reference to the production of capsules. By Professor THEOBALD SMITH. (In press.)

The fermentation tube in the study of anaerobic bacteria. By Professor THEOBALD SMITH, Messrs. H. R. BROWN and E. L. WALKER. (In press.)

The following general papers or addresses were presented by Professor Smith, on solicitation, during the year : —

Medical research, its place in the university medical school. Read before the Harvard Medical Alumni Association, New York City. *Popular Science Monthly*, April, 1905.

Research into the causes and antecedents of disease, its importance to society. Read before the American Social Science Association. *Boston Medical and Surgical Journal*, 1905, Vol. II, p. 6.

The relation of animal life to human diseases. Read before American Public Health Association. *Boston Medical and Surgical Journal*, November, 1905.

As stated in last year's report, the work in this department is greatly hampered for lack of a suitable animal house or stable with facilities for the study of infectious diseases and for making autopsies. Certain important problems relating to the domestic animals cannot be undertaken at all under present conditions, yet they are the ones whose solution may be of great benefit to human medicine.

Physiological and Pathological Chemistry. — The teaching in the required course has, during the past year, undergone no fundamental changes. More advanced and research work has been under way than heretofore, and has led to the completion of the following researches : —

The influence of cholic acid upon the excretion of sulphur in the urine. By Dr. C. L. ALSBERG. *The Journal of Medical Research*, Vol. XIII, No. 1.

Protein metabolism in cystinuria. By Drs. C. L. ALSBERG and O. FOLIN. *The American Journal of Physiology*, Vol. XIV, No. 1.

A study of the inorganic metabolism in osteomalacia. By Drs. J. E. GOLDTHWAIT, R. B. OSGOOD, and C. F. PAINTER, and Mr. F. H. MCCRUDDEN. *The American Journal of Physiology*, Vol. XIV, No. 5.

Uric acid. By Mr. F. H. MCCRUDDEN. 8vo. Usher, Boston.

Surgery.—The coördination of the systematic lectures, recitations, demonstrations, and clinical exercises, which was begun in 1903-04, has been continued during the past year with satisfactory results. The required surgical dressership in the surgical out-patient department, which was substituted for the section work, has proved fairly successful.

Research work, under the auspices of the Committee on Surgical Research, has continued throughout the year, as follows:—

Bulletin No. IV of the Division of Surgery was issued in May, 1905, and contained the following papers:—

The technique of gastro-intestinal operations. By Dr. A. H. GOULD.

Observations on the drainage of the peritoneal cavity of cats. By Dr. F. T. MURPHY.

Clinical report of seventy-five cases of arthritis deformans (chronic non-tubercular arthritis). By Dr. F. L. RICHARDSON.

The research involved in the foregoing papers was done in the surgical laboratory, under the direction of Assistant Professor E. H. Nichols. The Bulletin also contained the following papers: "Gastro-enterostomy and Pyloroplasty," by Assistant Professor W. B. Cannon of the Physiological Laboratory, and Dr. J. B. Blake of the Department of Surgery; and two papers on the "Results of Operation for Cancer of the Mouth and Tongue, with Reports of Hospital Cases," by Drs. H. A. Lothrop and D. D. Scannell, and Drs. Farrar Cobb and C. C. Simmons.

During the past year, steps have been taken towards establishing a collection of gross specimens and drawings to illustrate the gross pathology of regions of surgical importance. This collection is to be used in the immediate future in giving a course to advanced students and practitioners who intend to become surgeons.

The Third Annual Report of the Caroline Brewer Croft Fund Cancer Commission was completed and published in February, 1905. This report contained the following communications:—

A contribution to the classification of tumors. By Professor F. B. MALLORY.

On the nature of the cell inclusions of cancer. By Dr. R. B. GREENOUGH.

The effects of the Röntgen ray upon cancer. By Drs. R. H. VOSE and W. C. HOWE.

Implantation of tissue and its relation to cancer. By Assistant Professor E. H. NICHOLS.

A permanent organization of the Caroline Brewer Croft Fund Cancer Commission has been secured, Dr. Henry P. Walcott and Dr. A. T. Cabot representing the Corporation of Harvard College, Dr. Henry K. Oliver and Dr. J. Collins Warren representing the Trustees of the Croft Fund. Of this Commission Dr. J. Collins Warren is Chairman, and Dr. R. B. Greenough Secretary. Relations have been established with other cancer commissions, and material has been obtained for the further investigation of the cause of cancer by the study of transplantable tumors of mice, which have been obtained through the kindness of the directors of the cancer laboratories in Buffalo, Copenhagen, London, Paris, and Frankfurt. Dr. E. E. Tyzzer is at present in charge of the details of this investigation.

The following papers have also been written by members of the Division of Surgery:—

The diagnosis and treatment of fracture of the carpal scaphoid and dislocation of the semilunar bone. By Dr. E. A. CODMAN, with Dr. H. M. CHASE. *Annals of Surgery*, March and June, 1905.

The study and surgical anatomy of the small intestine and its mesentery. By Dr. G. H. MONKS. The Mutter Lecture, Philadelphia, December 2, 1904.

Orthopedic Surgery.—The work of the department has followed along the lines of previous years, but has been enlarged somewhat in scope. Individual work of the class has been encouraged, in place of the older method of didactic instruction formerly employed. Note-taking, quizzes, and examinations of notes were chiefly used by students who were obliged to attend the clinics.

Investigations have been conducted by the aid of the Proctor Fund, and satisfactory results have been obtained.

The publications of the individual members of the department have been numerous. Most notable among them may be mentioned the work of Dr. Goldthwait on "Non-tuberculous Joint Affections" and "Affections of the Sacro Iliac Articulation," and the valuable paper presented in Berlin before the German Orthopedic Association by Dr. R. W. Lovett, on "The Normal Movements of the Spinal Column."

Neurology.—In addition to the regular work of the department, Dr. Taylor offered last spring an optional course of eight lectures to the third and fourth year students. Some doubt was felt as to whether these lectures, which came at the end of the day, would be attended by any considerable number of students. As a matter of fact, about a hundred men were present up to the very last. It may

be of interest to note that those members of the department who were connected with the Massachusetts General Hospital have made an arrangement whereby their publications will be re-issued together once a year, or at intervals, in book form. The first of these issues will soon be published.

Hygiene. — The following publications have been made : —

Progress in hygiene. By Assistant Professor CHARLES HARRINGTON. *Boston Medical and Surgical Journal*, May 25, 1905.

An article on preventive treatment for "A Handbook of Practical Treatment." By Assistant Professor CHARLES HARRINGTON. (Edited by JOHN H. MUZZER, M.D., and A. O. J. KELLEY. Now in press.)

Museum. — The regular work of the Museum has been carried on during the past year. In view of the approaching change to the new buildings, the additions to the collection have been restricted as far as possible. About two hundred specimens have been added, chiefly in the line of surgical pathology.

Demonstrations in connection with the surgical course have been held more frequently than during previous years, and the specimens have been largely drawn upon for purposes of illustration aside from the regular School teaching.

Donations of surgical instruments have been received from the late Dr. Chadwick and others.

The Scholarships and Fellowships were awarded as follows : —

Joseph Pearson Oliver Scholarship,	W. A. Sawyer, A.B.,	3d Class.
Barringer Scholarship, No. 1,	R. T. Congdon, A.B.,	2d "
Isaac Sweetser Scholarship,	M. J. Shaughnessy, A.B.,	2d "
Claudius M. Jones "	R. H. Goldthwaite, A.B.,	3d "
Hilton "	J. P. Leake, A.B.,	2d "
" "	C. W. Waddell, A.B.,	2d "
Barringer " No. 2,	A. H. Crosbie, A.B.,	3d "
Alfred Hosmer Linder Scholarship,	F. H. Allen, A.B.,	2d "
Eveleth "	D. Gregg, A.B.,	2d "
" "	H. S. Bernstein, A.B.,	1st "
" "	F. H. McCrudden, S.B.,	1st "
Edward Wigglesworth "	C. S. Turner, Ph.B., A.M.,	3d "
Charles B. Porter "	J. H. Wyman, A.B.,	3d "
John Thomson Taylor "	F. G. Barnum, A.B.,	2d "
Lucius F. Billings "	J. L. Huntington, A.B.,	2d "
Orlando W. Doe "	G. S. Amsden, A.B.,	4th "
Charles Pratt Strong "	C. R. Metcalf, A.B.,	3d "
David Williams Cheever "	W. J. C. Sharpe, A.B.,	1st "
Lewis and Harriet Hayden "	E. D. Brown, A.B.,	3d "
John Foster Fund (3)	P. A. Adamian, A.B., D.B.,	3d "
" " " (4)	E. D. Bond, A.B.,	1st "
Cotting Gift,	O. V. Wells, A.B.,	3d "

The George Cheyne Shattuck Fellowship was awarded Henry A. Christian, A.M., M.D., for a casuistic and experimental study of pulmonary embolism.

The Charles Eliot Ware Fellowship was awarded Elmer E. Southard, A.M., M.D., for work relating to the classification of glioma and the comparison of glioma with gliosis.

The John Ware Fellowship was awarded Frederic T. Lewis, A.M., M.D., for a study of the embryological development of blood vessels and of certain nerves. (7th and 9th.)

A Boylston Medical Prize was awarded R. M. Yerkes, Ph.D., for an essay entitled "Auditory tactual reinforcement and inhibition in the frog"; and a similar prize was awarded Louis Nelson, A.B., M.D., for an essay entitled "The action of the active principle of Jamaica dogwood."

The statistics of the School will be found in the following tables :

COURSES OF INSTRUCTION, 1904-05.

	FIRST YEAR.	Students examined.
Anatomy. — Professor T. DWIGHT, Demonstrator WARREN, Assistant FLAGG, Assistant MOSHER, Instructor DAVIS, Assistant BUTLER, Assistant MARCY, Assistant WADSWORTH, Assistant CHEEVER, Assistant MURPHY, Assistant SCANNELL, Assistant ROBINSON.		57
Physiology. — Professor H. P. BOWDITCH, Associate Professor W. T. PORTER, Asst. Professor CANNON, Instructor MAXWELL.		79
Histology and Embryology. — Professor MINOT, Assistant DONOGHUE, Assistant WRIGHT, Instructor BREMER, Instructor LEWIS, Austin Teaching Fellow TAYLOR.		60
Physiological and Pathological Chemistry. — Professor WOOD, Instructor HEWES, Instructor EMERSON, Assistant ALSBERG, Assistant CONNOLLY.		59
SECOND YEAR.		
Bacteriology. — Professor ERNST, Assistant PAGE, Assistant PERRY, Assistant ROBEY, Assistant EVERETT, Assistant BAKER, Austin Teaching Fellow FROTHINGHAM.		63
Pathology and Pathological Anatomy. — Professor COUNCILMAN, Associate Professor MALLORY, Asst. Professor NICHOLS, Instructor WRIGHT, Instructor CHRISTIAN, Assistant MAGRATH, Assistant TYZZER, Assistant BRINCKERHOFF, Instructor SOUTHARD, Assistant KEENE.		67
Comparative Pathology. — Professor T. SMITH, Instructor CHRISTIAN, Assistant MAGRATH, Assistant KEENE.		
Hygiene. — Asst. Professor HARRINGTON, Assistant WALKER.		67
Theory and Practice. — Professor FITZ, Instructor CUTLER, Assistant STONE, Assistant JOSLIN, Assistant WHITE, Assistant BADGER, Assistant PRATT.		

Clinical Medicine.—Professor SHATTUCK, Asst. Professor SEARS, Instructor VICKERY, Assistant J. M. JACKSON, Instructor CABOT, Instructor H. JACKSON, Assistant ROBey, Assistant DENNY.

Surgery.—Professor WARREN, Professor RICHARDSON, Professor BURRELL, Asst. Professor NICHOLS, Instructor LOTHROP, Instructor J. B. BLAKE.

THIRD YEAR.

Therapeutics. —Asst. Professor PFAFF, Assistant JORDAN, Instructor TYRODE.	72
Theory and Practice of Medicine. —Professor FITZ, Instructor CUTLER, Assistant STONE, Assistant JOSLIN, Assistant WHITE, Assistant BADGER, Assistant PRATT.	71
Obstetrics. —Professor W. L. RICHARDSON, Associate Professor C. M. GREEN, Instructor NEWELL, Assistant SWAIN, Assistant FRIEDMAN, Assistant TORBERT.	78
Otology. —Professor BLAKE.	68
Ophthalmology. —Asst. Professor STANDISH, Assistant JACK, Assistant QUACKENBOSCH, Assistant CLAP, Assistant SPALDING, Assistant HASKELL.	66
Laryngology. —Clinical Instructor COOLIDGE, Clinical Instructor FARLOW, Assistant COFFIN.	69
Syphilis. —Instructor POST, Assistant C. M. SMITH.	70
Clinical Obstetrics. —Professor W. L. RICHARDSON, Associate Professor C. M. GREEN, Instructor NEWELL, Assistant SWAIN, Assistant FRIEDMAN, Assistant TORBERT.	
Dermatology. —Asst. Professor BOWEN.	78
Diseases of the Nervous System. —Professor PUTNAM, Assistant WATERMAN.	72
Pediatrics. —Professor ROTCH, Asst. Professor MCCOLLOM, Clinical Instructor CRAIGIN, Instructor MORSE, Assistant LADD, Assistant DUNN.	75
Psychiatry. —Instructor COWLES.	74
Gynaecology. —Asst. Professor DAVENPORT, Assistant STORER, Assistant NEWELL, Assistant YOUNG.	78
Surgery and Clinical Surgery. —Professor WARREN, Professor M. H. RICHARDSON, Professor BURRELL, Instructor THORNDIKE, Instructor LOTHROP, Lecturer GAY, Assistant LUND, Assistant FAULKNER, Assistant BALCH, Assistant GREENOUGH, Assistant CRANDON, Instructor PORTER.	68
Genito-Urinary Surgery. —Lecturer WATSON, Instructor THORNDIKE.	
Clinical Medicine. —Professor SHATTUCK, Asst. Professor SEARS, Instructor WITHINGTON, Instructor H. JACKSON.	

FOURTH YEAR.

Clinical Surgery. — Professor J. C. WARREN, Professor M. H. RICHARDSON, Professor BURRELL, Instructor MONKS, Assistant LUND, Assistant MUMFORD, Instructor LOTHROP, Instructor C. A. PORTER, Assistant GREENOUGH, Assistant J. B. BLAKE, Assistant BROOKS, Assistant FAULKNER, Assistant CRANDON.	77
Clinical Medicine. — Professor SHATTUCK, Asst. Professor SEARS, Instructor R. C. CABOT.	78
Ophthalmology. — Assistant Professor STANDISH, Assistant JACK, Assistant CLAP, Assistant QUACKENBOSCH, Assistant SPALDING, Assistant HASKELL.	70
Otology. — Professor BLAKE, Assistant HAMMOND, Assistant CROCKETT.	74
Laryngology. — Clinical Instructor DeBLOIS, Clinical Instructor COOLIDGE, Assistant MOSHER.	76
Syphilis. — Instructor POST, Assistant C. M. SMITH.	76
Orthopedics. — Associate Professor BRADFORD, Assistant LOVETT, Assistant GOLDTHWAIT, Assistant BRACKETT, Assistant DANE.	45
Hygiene. — Asst. Professor HARRINGTON, Assistant WALKER.	80
Psychiatry. — Clinical Instructor COWLES, Clinical Instructor LANE.	
Municipal Sanitation. — Lecturer DURGIN.	

Fourth Year Electives.

Ophthalmology. — Assistant Professor STANDISH.	5
Otology. — Professor BLAKE, Assistant HAMMOND, Assistant CROCKETT.	2
Dermatology. — Instructor C. J. WHITE.	35
Diseases of the Nervous System. — Professor PUTNAM, Instructor WALTON, Instructor KNAPP.	7
Gynaecology. — Associate Professor C. M. GREEN.	13
Operative Obstetrics. — Associate Professor C. M. GREEN, Instructor NEWELL, Assistant SWAIN, Assistant FRIEDMAN.	57
Operative Surgery. — Professor M. H. RICHARDSON, Instructor MONKS.	42
Orthopedics. — Associate Professor BRADFORD.	31
Clinical Microscopy. — Curator WHITNEY.	2
Clinical Chemistry. — Professor WOOD, Instructor HEWES, Instructor EMERSON.	1
Anatomy. — Demonstrator WARREN, Instructor DAVIS.	11
Histology of the Nervous System. — Professor MINOT, Instructor BREMER, Instructor LEWIS.	1
Physiology. — Associate Professor PORTER.	2
Hygiene. — Asst. Professor HARRINGTON and Assistant WALKER.	2

TABLE I.—GENERAL STATISTICS OF THE SCHOOL.

New matriculants	66
The whole number of students in attendance :—	
In courses for graduates	38
Fourth Class	67
Third Class	63
Second Class	84
First Class	67
Total	319
Applicants for Degree (February)	15
Applicants for Degree (June)	99
Rejected	7
Graduated	107

Of the 107 students who received the degree of Doctor of Medicine, 25 received the degree *cum laude*.

	SUMMER COURSES.					GRADUATE COURSES.				
	1901.	1902.	1903.	1904.	1905.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Courses taken . .	151	145	188	177	222	40	30	57	59½	88
Students	126	130	148	135	173	29	25	41	49	72
Receipts	\$4275	\$4400	\$5280	\$4942	\$6497	\$1065	\$700	\$1400	\$1446	\$2207

TABLE II.—FINAL EXAMINATIONS.

	1901.			1902.			1903.			1904.			1905.		
	Passed.	Failed.	Total.	Passed.	Failed.	Total.	Passed.	Failed.	Total.	Passed.	Failed.	Total.	Passed.	Failed.	Total.
FIRST CLASS:—															
Histology	141	24	165	13	78	9	70	5	75	7	72	5	54	6	60
Physiological and Pathological Chemistry	147	31	178	17	64	12	71	2	73	8	70	4	54	5	59
Anatomy	143	26	169	15	71	18	72	10	82	12	69	3	56	1	57
Physiology	126	52	178	30	81	16	66	33	99	33	50	34	60	19	79
SECOND CLASS:—															
Pathological Anatomy	122	7	129	5	143	17	58	15	73	20	70	4	58	9	67
Therapeutics	89	60	149	40	108	68	67	39	106	37	64	8	53	10	63
Bacteriology	95	21	116	18	154	12	68	9	77	12	64	3	63	4	67
Hygiene															
THIRD CLASS:—															
Theory and Practice	132	8	140	6	111	10	137	6	143	4	71	1	67	4	71
Surgery	126	5	131	4	115	4	132	8	140	6	65	2	63	0	63
Obstetrics	129	9	138	6	111	11	121	22	143	15	68	10	70	8	78
Pediatrics	136	2	138	2	120	3	138	12	140	9	70	6	69	6	75
Dermatology	109	30	139	23	131	19	131	16	147	11	66	10	76	13	73
Gynecology	128	7	135	5	117	6	130	16	146	11	71	7	70	3	73
Neurology	125	12	137	9	116	7	139	8	147	6	73	6	67	5	72
Therapeutics															
Clinical Medicine															
Clinical Surgery															
Syphilis															
Ophthalmology															
Otology															
Laryngology															
Psychiatry	129	9	138	6	116	11	136	6	143	4	71	5	74	0	74

FOURTH CLASS :—

Clinical Medicine	111	10	121	8	131	6	137	4	109	8	117	7	128	13	141	9	72	6	78	8
Clinical Surgery	120	2	122	2	129	0	129	0	114	0	114	0	158	0	158	0	77	0	77	0
Ophthalmology	108	10	118	8	121	18	139	13	112	6	118	5	140	0	140	0	64	6	74	8
Otology	114	0	114	0	131	3	134	2	113	2	115	2	134	5	139	3	73	1	74	1
Laryngology	117	0	117	0	137	0	137	0	115	3	118	3	139	3	142	2	76	0	76	0
Syphilis	120	0	120	0	135	1	136	1	118	0	118	0	139	1	140	1	76	1	76	1
Orthopedics	71	0	71	0	98	1	99	1	92	0	92	0	120	0	120	0	44	1	45	1
Hygiene	116	12	128	9	124	17	141	12	111	12	123	10	138	7	145	5	76	4	80	5
FOURTH CLASS.—ELECTIVES :—																				
Ophthalmology	3	0	3	0	6	0	6	0	7	0	7	0	4	0	4	0	5	0	5	0
Otology	3	0	3	0	1	0	1	0	4	0	4	0	3	0	3	0	2	0	2	0
Gynaecology	33	0	33	0	14	1	15	7	23	0	25	0	16	0	16	0	13	0	13	0
Dermatology	32	4	36	11	64	4	68	6	47	2	49	4	57	3	60	5	30	5	35	14
Neurology	13	2	15	13	7	2	9	22	7	0	7	0	7	0	5	0	5	2	7	28
Operative Obstetrics	36	1	57	2	87	11	98	11	64	0	64	0	94	2	96	2	54	3	57	5
Operative Surgery	71	3	74	4	79	2	81	2	78	0	78	0	77	0	77	0	42	0	42	0
Bacteriology	10	2	12	17	5	0	5	0	1	0	1	0	1	0	1	0	1	0	1	0
Orthopedics	50	0	50	0	37	1	38	2	23	0	25	0	22	0	22	0	31	0	31	0
Clinical Microscopy	10	0	10	0	7	1	8	12	12	0	12	0	15	0	15	0	2	0	2	0
Clinical Chemistry	3	0	3	0	3	0	3	0	2	0	2	0	3	0	3	0	1	0	1	0
Anatomy	20	0	20	0	14	0	14	0	19	0	19	0	33	1	34	1	11	0	11	0
Physiology	2	0	2	0	1	1	2	50	2	0	2	0	2	0	2	0	2	0	2	0
Embryology	2	1	3	33	1	1	2	50	2	0	2	0	2	0	2	0	2	0	2	0
Hygiene	1	0	1	0	5	0	5	0	2	0	2	0	1	0	1	0	2	0	2	0
Physiological Chemistry	1	0	1	0	3	0	3	0	2	0	2	0	1	0	1	0	2	0	2	0
Comp. Etiology of Infectious Diseases	2	0	2	0	2	0	2	0	4	0	4	0	1	0	1	0	3	0	3	0
Histology of the Nervous System	2	0	2	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
Pharmacology	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0

An examination of Table I shows a very decided increase in the number of Summer and Graduate Courses taken, and in the number of students availing themselves of the instruction offered in these two departments during the past year. In connection with the summer work it is interesting to note that the students in attendance came from twenty-nine different States in the Union, the District of Columbia, Australia, China, and Canada.

WILLIAM L. RICHARDSON, *Dean.*

THE DENTAL SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—As Dean of the Dental School I have the honor to submit the following report for the academic year 1904–05.

The number of students enrolled was 108, divided as follows:—

Third-year students	44
Second-year students	38
First-year students	26
	108

Two candidates for the degree who failed to pass all of the requirements in June, 1904, received the degree in February, 1905.

There were thirty-nine candidates for the degree in June, nine of whom failed in the final examinations, leaving a graduating class of thirty, four of whom received the degree *cum laude*.

Instruction was given as follows:—

Anatomy.—Professor T. DWIGHT, Demonstrator WARREN, Assistants FLAGG, MOSHER, BUTLER, MARCY, DAVIS, WADSWORTH, CHEEVER, MURPHY, SCANNELL, and ROBINSON. 424 hours.

Physiology.—Professor H. P. BOWDITCH, Associate Professor PORTER, Assistant Professor CANNON, Instructor MAXWELL. 348 hours.

Histology and Embryology.—Professor MINOT, Assistant DONOGHUE, Instructors BREMER, LEWIS, Austin Teaching Fellow TAYLOR. 252 hours.

Physiological and Dental Chemistry.—Austin Teaching Fellow SMITH. 302 hours.

Bacteriology.—Professor H. C. ERNST, Instructor HILL, Assistants PAGE, ROBEY, PERRY, EVERETT, Austin Teaching Fellow FROTHINGHAM. 160 hours.

Materia Medica and Therapeutics.—Professor E. C. BRIGGS, 32 lectures; Assistant RODGERS, 44 recitations.

Dental Pathology.—Professor C. A. BRACKETT. 32 lectures.

Neurology.—Instructor E. W. TAYLOR. 4 lectures.

Crown and Bridge Work.—Assistant Professor COOKE, 32 lectures; Assistant Professor COOKE, Instructors ELDRED, GRANT, 32 clinics.

Mechanical Dentistry and Orthodontia.—Professor E. H. SMITH. 32 lectures.

Orthodontia.—Professor E. H. SMITH, Instructors BAKER, REOCH. 32 clinics.

Mechanical Dentistry and Orthodontia, Juniors.—Instructor BAKER. 10 lectures.

Mechanical Dentistry.—Clinical Instructor J. D. DICKINSON. 8 clinical lectures.

Mechanical Dentistry, laboratory, Seniors.—Demonstrator CROSS, Instructors ELDRED, HADLEY, PARSONS, GRANT, HAYDEN, CHUTE, ESTABROOKS, SPINNEY, J. W. DICKINSON. 496 hours.

Mechanical Dentistry, laboratory, Juniors.—Demonstrator CROSS, Assistant Demonstrators CHASE, CASSIDY. 544 hours.

Mechanical Treatment of Fractured Jaws, Cleft Palates, and other Deformities.—Demonstrator CROSS. 15 lectures.

Extracting and Anaesthesia (Demonstrations).—Instructors FARRINGTON, HART, MARSTON, SQUAREBRIGS, O'BRIEN. 477 hours.

Continuous Gum and Porcelain Inlay Work.—Clinical Lecturer STODDARD. 18 lectures and demonstrations; 16 clinics.

Operative Dentistry, Seniors.—Professor POTTER. 32 lectures.

Operative Dentistry, Juniors.—Lecturer BRADLEY. 32 lectures.

Operative Dentistry.—Clinical Instructor WERNER. 13 lectures and demonstrations.

Operative Dentistry and Dental Jurisprudence.—Clinical Lecturer CLAPP, 12 lectures; Instructor STARRATT, clinical assistant.

Operative Dentistry, Samaritan Hospital.—Instructor ROGERS. 32 clinics.

Operative Dentistry, Infirmary, Juniors.—Assistant Demonstrator D. W. DICKINSON, Instructors FURFAY, LITTIG, KING, DAVIS, ESCATE, MCPHERSON, ELLIOTT, WHITEHILL, NAYLOR. 403 hours.

Operative Dentistry, Infirmary, Seniors.—Lecturer BRADLEY, Instructors EDDY, BLAISDELL, PERKINS, PAUL. 624 hours.

Oral Surgery.—Instructor SHUMAN. 6 lectures; 32 clinics.

Surgical Pathology and Surgery.—Lecturer MONKS, 10 lectures and demonstrations; Instructor BLAKE, 5 clinics at the Boston City Hospital.

The work of the School is shown in the following tables:—

OPERATIVE DEPARTMENT.

No. of patients treated	6,791
“ treatments of teeth and gums	2,163
“ sets of teeth cleansed	1,436
“ operations	17,735
“ fillings—gold	2,520
“ “ amalgam	2,216
“ “ cement	1,760
“ “ gutta percha	2,976
“ porcelain inlays	179
“ gold inlays	9

SURGICAL CLINICS.

No. of cases of necrosis	5
“ “ abscess	7
“ “ antrum disease	3
“ “ epulis	2
“ “ cleft palate	2
“ “ cysts	2
“ “ ulcerative stomatitis	3

MECHANICAL DENTISTRY.

SERVICE TO PATIENTS.

No. of sets of artificial teeth	190
" " " " repaired	116
" partial sets of artificial teeth	149
" appliances for fractured jaws	44
" obturators and appliances for cleft palates	18
" plug for antrum	1

PRACTICE WORK.

No. of specimen plates	812
" plates repaired	28
" appliances for fractured jaws	22

ORTHODONTIA.

SERVICE TO PATIENTS.

No. of patients treated for irregularities of the teeth	110
" appliances	211
" articulated models of regulating cases	154

PRACTICE WORK.

No. of articulated models of regulating cases	90
---	----

CROWN AND BRIDGE WORK.

SERVICE TO PATIENTS.

No. of crowns and caps	209
" crowns repaired	19
" pieces of bridge work	52
" " " repaired	1
" porcelain tips	8
" carved crowns	6

PRACTICE WORK.

No. of crowns and caps	151
" bridges	71
" porcelain inlays	132
" carved teeth models	38

During the year several clinics in Operative Dentistry were given on Saturday afternoons by prominent practitioners not connected with the regular teaching staff. These clinics served to demonstrate special methods of operative procedure and treatment. They were well attended and much appreciated by the students.

The summer service to patients was extended and enlarged. The infirmary was opened during the summer months and students were

given an opportunity to practice under the direction of a corps of teachers who volunteered for this service. Special courses in several subjects were given which were attended by advanced students and by men who graduated in June.

In July last the School acquired by purchase a lot of land on the corner of Longwood Avenue and Wigglesworth Street, adjoining the Medical School land. Plans for a building suitable for the needs of the School have been made and a committee is now at work trying to raise a sum of money sufficient to pay the cost of the building and to provide for an endowment.

EUGENE H. SMITH, *Dean.*

BUSSEY INSTITUTION.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR,—I respectfully submit the following report on the Bussey Institution for the year 1904–05.

Twenty-three students were registered at the Bussey Institution, and in addition to these professional students of Agriculture and Horticulture there were twelve others who came to Forest Hills from Cambridge on certain days to attend lectures on Horticulture. Hence the whole number of students in attendance was thirty-five. Of the guests, eight were registered at the Graduate School and four at the Lawrence Scientific School.

The degree of Bachelor of Agricultural Science was conferred upon one candidate at Commencement.

Instruction was given throughout the year in Agriculture (including Cattle Breeding, Cattle Feeding, and Dairying), Horticulture, Agricultural Natural History (including Botany as applied more particularly to the determination of useful, harmful, and ornamental plants), Agricultural Chemistry, Chemical Analysis, and Land Surveying, by Messrs. Hersey, Watson, Morse, Paige, Dillingham, Clarke, Robinette, and Storer.

The fitting up of two large rooms, for use more particularly by the instructors in Natural History and Botany, afforded a partial relief from the crowded conditions which have obtained ever since the occupation of some of the best rooms in the Stone Building by employés of the Massachusetts State Board of Health and attachés of the Medical School.

A highly acceptable gift of anatomical models, illustrating points in dairying and cattle breeding, was received from Mr. Augustin Hamilton Parker (A.B. 1897), formerly a student at the Bussey Institution.

Although the school has gained steadily in recent years under the existing arrangements, experience teaches that the number of students might be increased and their progress promoted if financial conditions would but permit the employment of one or two additional instructors so that the course of study in the second year might be made more symmetrical and satisfying. Another great desideratum is the establishment of a loan fund which should enable students in

straitened circumstances to borrow money to pay for their board and lodging while attending the school. Such a fund would be helpful in many ways. As matters now stand, the tuition fees of such students may be remitted on evidence of their mental ability and worthiness, but there is no provision for enabling them to subsist.

F. H. STORER, *Dean.*

THE LIBRARY.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—I beg to submit this my eighth annual report on the Library, covering the year 1904-05.

It is an unwelcome task, year after year, to dwell first upon the inconveniences and restrictions which prevent the Library from yielding its best service to the University, rather than to chronicle the progress toward more careful organization and more general usefulness which should mark each year's growth. Yet, whatever aspect of the work of the Library is considered, whether it be an improvement in method or a change in aim, a matter of general policy or a detail of service, the same familiar obstacles present themselves, lack of room and lack of means. All I can do is to make the best of the room and the means we have, and, while doing so, keep the Library's needs steadily before the public. For it is plain that the Corporation has at present no resources with which to extend the Library's building on a generous scale or to increase its staff. Our only source of help is to be found in the friends who understand the place that the Harvard Library occupies in the college world and in the world of learning, and who, it is hoped, will insist that the Library shall be enabled to maintain the position it has so long honorably held. Through lack of means to administer and lack of space in which to store and to use its treasures, it is in serious danger of being compelled to restrict its usefulness within a narrower field and to more elementary purposes. Already it is unable to handle the accessions it receives year by year in such a manner as to bring them fully into use.

The need of great collections of books administered on generous principles is sometimes overlooked, for many persons still fail to realize that the library is to students in literature, economics, and history, taking these subjects in the broadest sense, what the laboratory and the museum are to students of science. That is to say, the library collects and preserves the evidence of what man has been and done and thought at different epochs. In fact, except for pictures, statues, buildings, and other products of the fine arts, and some great works of engineering, the printed and written page is the only evidence of this activity that comes down from one generation to another. This mass of evidence, gathered for his use in libraries, the student sifts and examines; and from it he selects what bears on his

studies, precisely as the naturalist searches for specimens in the field or in the museum, and as the chemist or physicist tests the materials and the laws of nature in his laboratory. This is one kind of service the library renders, a service primarily valuable to the historian. Another service, of equal value to the historian and to the scientist, it renders in keeping both informed of what others are doing in the same field with themselves, thus enabling them to profit by others' experience, and for both it preserves a record of the fundamental facts that have been established by careful observation. To perform this latter service a library must have a wise selection of the best modern treatises on a great variety of subjects, and it must receive currently an abundant supply of periodicals, covering all departments of learning. For efficient service in the other field—the preservation of historical material—recent books are of less significance, except as they reprint earlier contemporary documents, or as they themselves afford evidence of present conditions which will be of value to future students. But old books, reflecting in one way or another the condition of the time when they were written, are of chief importance. Such a collection, when it has outgrown its first beginnings, should not be restricted to a selection of the few works of prime importance. Its value depends largely on its comprehensiveness, and it must include many a book that by itself is almost valueless, but which, placed side by side with other books, both gains value from them and adds to their value.

So extensive is the field opened up by such considerations that, in collecting on this basis, every library must confine itself to a small number of subjects, such as it has special means or special opportunities to cultivate. Among such subjects for this Library are, for example, Folklore and the History of the Ottoman Empire, together with several lesser specialties in which chance or private generosity has already given us strong collections to build upon, such as our collections of Dante, Molière, Milton, Byron, the publications of Halliwell-Phillips, books on the Catacombs, etc. In these limited fields, the Library may wisely collect everything it has the means to buy, or the strength to handle, almost without regard to intrinsic value. In other fields, it must exercise care in its choice of additions and limit the size and character of its collections according to the means it has with which to increase them.

I dwell for a moment on these general considerations, because they illustrate the change which has taken place in twenty-five years in the policy of the Library, and suggest some of the reasons why the Library is now so hard pressed both for shelf-room and for the

support of its staff. Its first aim and its work of deepest influence is still to instruct and inspire the beginner, to whom it opens a new and wider world. For this purpose, a collection of very moderate size suffices. But with its growth, a new responsibility has come, and the Library is now called upon to perform another and very different service in addition. By well directed purchases, it has been greatly strengthened in all departments, and during the last half-dozen years it has also been enabled by the generosity of many friends, each of whom confines his interest to a limited subject, to begin the building up of special collections, such as have been nowhere available before, and which in some cases are already unrivalled anywhere. This same policy is necessarily adopted by other university libraries as well as our own. The present standards of scholarship, and the number of well-equipped students prepared to undertake prolonged investigations in regard to obscure and very special points, make it worth while, as never before, to have extensive collections of material.

A policy such as this is undoubtedly expensive. In the case of a public library which buys a great stock of the latest English and American books, including many copies of those most in demand, and adds thereto a selection of the best current foreign books, the cost per volume of placing these works on its shelves and of cataloguing them will be a very moderate sum. But the classification and cataloguing of the books which a university library buys in building up a special collection is a very different matter. The foundation of such a collection is generally laid in the publications of the 16th and 17th centuries; the books in foreign languages, some of them in what might be called ultra-foreign languages, may far exceed those in English; some will be bulky folios or sets with long-winded titles and complicated methods of numbering; others will be fugitive pamphlets or news sheets, like the innumerable contemporary accounts of battles with the Turks which were scattered over Europe in the 17th century. To buy these and to classify and record them in such a way as to prevent the acquisition of duplicates and to make them readily accessible to the student, requires careful, deliberate work by well-trained experts. The means to acquire such treasures has been generously placed at our disposal in abundant measure; the means to handle them the College has, in most cases, to provide from its own treasury, and in recent years its ability in this respect has been sorely overtaxed.

In 1896-97, the last year of Mr. Winsor's administration, the library spent \$14,930.18 for books, of which \$296.04 was derived

from special gifts; in 1904-05 the library spent \$22,397.46 for books, of which \$2,836.29 was derived from special gifts, an increase of precisely fifty per cent. in the money spent. The increase, almost ten-fold, in the money derived from gifts is an indication of the still larger relative amount expended for books difficult to buy and catalogue. Yet the expenditure for service has only increased a little less than ten per cent. This ten per cent. increase in cost of service represents about the same increase in hours of work, since there has been but little change in the rate of payment. But the fifty per cent. increase in money spent for books does not measure the full increase in the amount of work to be done. In 1896-97 the average accessions of the three years previous had been 10,861 volumes; in 1904-05 the average accessions of the last three years have been 18,636, an increase of 71 per cent. This excessive disproportion between the increase of work to be done and the increase in the force that must do it indicates either increased efficiency in the staff or diminished thoroughness in the work. In fact, both results have occurred. There is certainly an increased efficiency in the working force, for it has been our steady endeavor to promote this and to eliminate every unnecessary element in the processes involved. A still greater improvement could no doubt have been attained if we were not constantly subject to losing well trained assistants who are attracted to other libraries by higher pay. On the other hand, no possible increase in efficiency can keep pace with the increased amount of work, and it is a fact to be lamented that partial and imperfect methods of work have necessarily been adopted in order to prevent the whole library machine from being brought to a standstill. The character of these methods has been described in earlier reports and I need not enter upon the details again. From the nature of the case, such methods have to be applied principally in the catalogue department. The work of the order department cannot be materially lessened; the shelf department cannot do less than to assign every book its true place in the classification and to enter it in the shelf-lists, so that little or no saving can be made here. It is in the catalogue record that nearly the whole saving has to be made, and it is in this department accordingly that the Library has suffered most. Some kind of record, perfect or imperfect, we have of everything received, but arrears of work to be later reexamined and improved are accumulating at a dangerous rate. Already over 53,000 titles have been passed over in a more or less imperfect manner and must be taken up again in order to make our catalogue what it has always been

our aim to make it — an accurate and comprehensive guide to the contents of the Library.

Every member of the staff, not only in the catalogue department, but in all the other departments, works under a constant and rather wearing pressure, feeling that the work to be done is always beyond what can be accomplished in the time and with the strength available, and this of itself leads almost unavoidably to hasty methods and poor results. Yet no substantial addition to the staff can be made, even if we had the money to pay for more help, because we have no place in which additional persons can work. We have already pushed more than one of our assistants out into the stack, where work is done at serious inconvenience and with constant danger to health from drafts. Further illustrations of the crowded condition of the Library will be found in the pages where I have to report the difficulties incident to shelving the Hohenzollern Collection of German History, the serious increase in the number of shelves which have to bear double rows of books, and the constant labor involved in shifting books in order to find room for new accessions in their proper places.

It is plain that what the Library needs is a generous enlargement of the present building or a new building on the present site, costing, we may expect, from seven hundred and fifty thousand to a million dollars, and at the same time, and not less important, an addition to its endowment fund which would yield at least \$25,000 a year. An addition of \$40,000 could be used to the great advantage of the Library, and would be needed to secure the well trained and expert service which our great collections require if we are to get the best service from them. Failing to obtain this adequate endowment, which up to the present time no one stands ready to bestow upon us, we ought to inquire how our most pressing needs can best be met for the next few years, for it seems impossible that we should longer continue under our present conditions.

So far as I can see, the most economical plan would be to build an extension of the present East stack to the eastward for say fifty feet (the present stack is seventy feet long), with the addition of a one-story or a two-story section along the whole north side of this stack, corresponding to the section on the south side in which the cataloguing rooms and the librarian's office are contained. This would give us shelf-room for some 150,000 more volumes, would permit the enlargement of the Delivery Room, would give additional space for the staff, and some quiet study-rooms for professors and advanced students, besides a small reading-room in which rare books might be kept and used. In this way our chief needs would

be reasonably well met for the present, and further enlargement might be postponed for several years without serious inconvenience. If we are to preserve our present building, and are eventually to remodel and enlarge it, this addition should be of a permanent character; if we are finally to give up our present building and replace it by a new one, the addition, being for temporary use only, should be built as cheaply as is consistent with safety from accident and from fire. In the first case, the cost, I should judge, would be somewhere near a hundred thousand dollars; in the latter case it might be much less. I earnestly hope that before another year passes, it will be found possible to take a distinct step in this direction.

The Catalogue of our English and American Chap-books and of our Broadside Ballads has been completed and is now ready for distribution. This catalogue covers 143 pages and includes nearly 2,500 items. The initial work on the collection was done by Mr. Charles Welsh, a well-known authority on children's books, but the scope of the catalogue was much enlarged after Mr. Welsh's work on it was finished, and the Catalogue owes its present shape mainly to the patient labor of the Assistant Librarian, Mr. Tillinghast, who has taken the greatest pains to insure its completeness and accuracy. As these little books have never been recorded on our card catalogue, the printed list now issued is a fresh contribution to the catalogue of the Library. I hope we may, from time to time, be able to put into print other well-marked separate sections of our catalogue and to this extent relieve the catalogue drawers. We already have printed lists on Angling, British Municipal History, Dante, and Floras, catalogues of the Sumner collection, of the Carlyle collection on Cromwell and Frederick the Great, and of the Treat collection on Ritualism and Doctrinal Theology, and calendars of the Sparks and the Arthur Lee Manuscripts. The next contribution to this catalogue series will be the catalogue of the Molière collection (including Professor Bôcher's library), now in the printer's hands. For the expense of printing these Bibliographical Contributions, the Library enjoys the use of a part of the income of the Richard Manning Hodges Fund, but the necessary editorial work is expensive and, under present conditions, we can properly undertake but little.

The appointment of three honorary Curators in the Library was mentioned in my last report. I have been glad to continue the policy thus inaugurated by recommending to the Corporation the appointment of two others, George Parker Winship, A.M., Librarian of the John Carter Brown Library in Providence, to be Curator of Mexican History, and Chester N. Greenough, Ph.D., to be Curator

of American Literature; and of a third, for one year on salary, Walter Lichtenstein, A.M., to be Curator of the Hohenzollern Collection of German History. Messrs. Winship and Greenough give such time and help as their other duties permit. Mr. Lichtenstein, on the other hand, has been in Germany and Italy since last June and has devoted his whole time to seeking desirable additions for the Hohenzollern Collection. In Italy he is also buying for us books on Venice and Northern Italy from the gift of Mr. Francis Skinner, of Boston, lately received for that purpose. Before returning he will also visit Holland, where he will buy books for the John Lothrop Motley collection on Dutch History which an anonymous friend wishes to establish in this Library. This is the first time that the Library has sent abroad a special agent to buy books, and it will be interesting to see just what are the results. No final statement can be made in regard to this until after Mr. Lichtenstein's return, but it will probably appear that, in spite of the lower prices at which such an agent is able to buy, the net cost of the books will be considerably higher; but that, on the other hand, the Library will have acquired a much greater number of desirable works than it would have been able to obtain in any other manner. The expense of the undertaking is borne by Professor Coolidge.

The accessions to the libraries of the University for the year, and the present extent of each are shown in the following table: —

Accessions.	Volumes added.	Present extent in	
		Volumes.	Pamphlets.
Gore Hall (College Library)	16,635	451,260	304,000
Law School	6,540	88,307	8,926
Divinity School	574	34,909	8,851
Medical School	38	2,465	..
Dental School	103	961	9,000
Bussey Institution	150	4,550	..
Museum of Zoölogy	1,093	41,157	35,033
Peabody Museum	159	3,297	2,938
Astronomical Observatory	281	11,422	24,511
Gray Herbarium	239	9,208	7,891
Arnold Arboretum	1,429	11,940	..
Twenty-eight Special Reference Libraries . . .	1,812	40,866	..
Total	29,053		
Deduct, transfers between Gore Hall and Department Libraries	271		
Totals	28,782	700,342	400,650

The map collection in the College Library contains 23,611 sheets not included in the above enumeration.

The additions to the College Library for the last five years have been as follows : —

ADDITIONS TO COLLEGE LIBRARY.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Volumes by purchase or exchange .	7,061	7,400	7,731	7,870	7,746
Do. by binding serials	1,151	1,359	1,152	1,312	1,760
Do. by binding pamphlets	836	610	736	1,104	1,098
Do. by gift	4,749	4,648	7,358	12,009	6,031
Total volumes added	13,797	14,017	16,977	22,295	16,635
Maps in sheets	589	524	1,064	354	2,001
Pamphlets by purchase or exchange	1,132	1,449	1,950	1,217	1,198
Do. by gift	14,235	16,280	13,441	14,259	14,951
Total gifts (vols. and pams.) . . .	18,984	21,914	20,799	26,268	20,982

The number of volumes added falls much below the number of the previous year, but is far above the average yearly increase from 1895 to 1900 (12,800 volumes), or the average of the three years 1900 to 1903 (14,930 volumes).

Dr. Malcolm Storer, the Curator of Coins, reports that the Library has received 105 medals bought with proceeds of the sale of duplicates contained in the Fuller gift of last year; 117 ancient coins from Rev. George P. Knapp, of Harpoot, Turkey, through Mr. B. A. G. Fuller; 413 modern coins from Mr. Charles P. Greenough; medals of Abbott Lawrence, Guizot, President Roosevelt, and Joseph Wharton, and the one commemorating the fiftieth anniversary of the University of Wisconsin — in all, 530 coins, and 112 medals.

Last year the principal gift to be chronicled was the library of Professor Konrad von Maurer, of Munich, presented to us by Assistant Professor A. C. Coolidge. This year I have to record the gift of the smaller but even more precious library of Professor Charles Eliot Norton and the establishment of the Norton Memorial Fund for the purchase of books. The history of these welcome additions to the Library's resources must be briefly stated. When it became known last spring to some of Professor Norton's friends that he would be willing to make an arrangement by which his library should eventually come into the possession of the College, a few of them quickly subscribed the sum necessary to protect his estate from loss through the transfer. Then, in order to give Professor Norton's

many friends and admirers an opportunity to share in raising a permanent memorial of his services to the University, a circular was quietly sent about, proposing that further subscriptions should be made for a book-fund, the income of which should be devoted to the purchase of books for the College Library in accordance with Professor Norton's own instructions, these books, together with those from his personal collection, to be provided with a special book-plate bearing his name. The response was immediate and hearty, and on the evening of May 11 a little company gathered at Shady Hill, told Professor Norton of what had been done, and presented to him a dedicatory inscription in the following words:—

TO
CHARLES ELIOT NORTON
FROM
HIS STUDENTS, ASSOCIATES, AND FRIENDS
IN APPRECIATION
OF HIS SERVICES TO HARVARD UNIVERSITY
DURING MANY YEARS
IN ADMIRATION
OF HIS LIFE—LONG DEVOTION TO HIGH IDEALS
IN LETTERS, ART, AND CIVIC DUTY
IN GRATITUDE
FOR HIS HOSPITALITY, COUNSEL, FRIENDSHIP
INSPIRATION
—
FELICE TE, CHE SÌ PARLI A TUA POSTA!

—
MAY FIRST, 1905

A handsomely bound volume contains the signatures of those who subscribed to this address, five hundred and eighty-one in number.

I am permitted to print Professor Norton's reply, addressed the next day to Major Henry L. Higginson:—

"SHADY HILL, 12 May, 1905.

"MY DEAR HIGGINSON:—

"The expression which I received last night of the kind feelings of many friends toward me touched me deeply, and, as your name heads the list of those who have united in this testimonial of their regard, I address my thanks to you, and through you to the others who have done me this exceptional honor and given me this great pleasure.

"The form of the testimonial is altogether gratifying to me. I could desire no better memorial than one which may secure the occasional remembrance of my name in connection with the service rendered by the Library of Harvard College to future generations of students.

"In looking back over my life in its relations with the University I recognize as a special good fortune that I had for many years to give instruction in a field in which I had to deal with the highest ideals of men as expressed in the arts. It is to the charm which these ideals exerted on the open and susceptible nature of the youths whom I addressed that I feel that the personal sentiment of which this testimonial is the expression is largely due. But whatever its source I am grateful to my former pupils for this evidence of their regard.

"To the elder friends who have joined in doing me this honor I can only say—I thank you with a gratitude and affection of no recent date, for the utterance of which I am glad to have occasion.

Always, my dear Higginson,

Most sincerely Yours,

CHARLES ELIOT NORTON."

The sum of \$8,500 has been paid over to the College Treasurer, and a final balance will be transferred in due time.

In regard to the books to be bought with the income, Professor Norton writes me:—

"The moderate distinction of my library, which now forms part of the College Library, and for the increase of which this fund was subscribed, largely consisted in its containing a considerable number of books of special interest. Most of these fall into two classes,—one that of early typography, and of early wood-cut engraving, mostly Italian; the other that of books with interesting associations from having belonged to or from containing the autographs of eminent men, or from being the gift of their authors, or from being first editions. Some rare Americana, and some scarce works on the Fine Arts, especially on Architecture, formed two minor classes.

"It is to the increase of either one of these classes, as opportunity may occur, that, it seems to me, the income of the fund should be devoted. And, I think, that purchases should largely be guided by the principle that one volume of superior interest, however costly, is to be preferred to any number of volumes of inferior interest, however cheap. Quality not quantity should be the rule."

The subscribers did not expect that Professor Norton's own collection would be immediately transferred to the Library, but Professor Norton himself preferred that the more precious books should be placed here in safe keeping without delay, and about 600 volumes were received in May. The greater part were placed in a

case specially built for them, and all will be kept together as a memorial collection. I have no space to give a detailed description of these interesting and precious volumes, and we have as yet had time to make only the briefest record of them. The general character of the collection Professor Norton has happily expressed in the letter above.

I may add that the collection contains volumes which have formerly belonged to Ben Jonson, Sir Henry Wotton, Lord Fairfax, Isaac Casaubon, Pietro Bembo, Martin Luther, Horace Walpole, Sir Joshua Reynolds, Benjamin West, Thomas Gray, Samuel Johnson, James Boswell and his son, Sir Alexander Boswell, Robert Southey, William Wordsworth, Thomas Campbell, Leigh Hunt, Charles and Mary Lamb, John Sterling, Sainte Beuve, Jeremiah Dummer, Increase Mather, Jeremy Belknap, and George Washington; volumes received as gifts from Ruskin, D. G. Rossetti (a copy of *The Germ*), Clough, Carlyle, Dickens, Matthew Arnold, Cardinal Manning, G. W. Curtis, Longfellow, Lowell, Holmes, and others; some American and English imprints of the highest rarity, such as the Boston edition (1693) of Mather's *Wonders of the Invisible World*, of which not more than one or two other copies are known, Wordsworth's *Evening walk*, 1793, Shelley's *Adonais*, Pisa, 1820, and several rare editions of the *Hypnerotomachia*; also many other early editions of English and American authors; a remarkable collection of early editions of John Donne, with manuscripts of his poems; many Aldine editions of classic authors; early editions of Dante, Petrarch and Boccaccio; and a number of mediaeval manuscripts, including church service books, three manuscripts of Boethius, and texts of Leonardo Aretino, of Peter Lombard's *Sententiae*, Lucan's *Pharsalia*, and Cicero's *Tusculanae quaestiones*.

The number of individual donors, of societies, of government and municipal departments, and of institutions, from which gifts are received is so great that no detailed record of their kindness can ever be made in these reports, but an acknowledgment of their gifts has in every case been sent to them by mail.

From South American governments and officials, and in several cases from the American diplomatic representatives to those governments, many valuable documents, as well as other publications, have been received during the last two years. To various government departments of the Argentine Republic, Paraguay, Uruguay, Chile, Peru, and Mexico we are especially indebted, also to the American Legation at Bogota, to the Bolivian Legation in Washington, to the

Peruvian Consulate in New York, to José S. Decaud, Juan J. Soler, and the Instituto Paraguayo, of Asuncion, Paraguay, to M. V. Ballivian, of La Paz, Bolivia, and to Albert Prado Martinez, Luis Montt, and F. Lumley, of Santiago de Chile. For bringing the Library to the notice of these governments and individuals, we are indebted to Dr. Hiram Bingham, the Curator of South American History.

Relations of exchange have now been established with most of the German universities. During the year ending September 30, 1905, doctors' dissertations and other similar publications were received from the several universities, as follows:—

Berlin	90	Greifswald	77	Marburg	5
Bonn	119	Halle	133	Münster	50
Breslau	39	Heidelberg	54	Munich	93
Erlangen	77	Jena	106	Rostock	297
Freiburg	76	Kiel	178	Strasburg	109
Giessen	132	Königsberg	82	Tübingen	49
Göttingen	90	Leipzig	189	Würzburg	65

Dissertations were also received from a number of other European universities and from many in the United States. Since doctors' theses submitted to our own Faculty are not commonly printed in pamphlet form, we are unable to return to other universities an equivalent in kind. We send in exchange the Bibliographical Contributions of the Library and the serials published by the different departments of the University so far as they are available for this use, but what we receive far exceeds what we can send in return.

To the Imperial German Government we are indebted for a complete set of the *Stenographische Berichte* of the German Reichsrath from 1867, the date of the formation of the Norddeutscher Bund, to the present day. With this valuable gift comes, in addition, recent volumes of the *Berichte* of the Prussian Landtag, presented by the presidents of the two houses. The whole comprises 255 volumes and has lately arrived packed in nine cases. These publications are for the legislative bodies to which they relate what the Congressional Record is for Congress and Hansard for the British Parliament. We owe it to the German Ambassador in Washington, who has before manifested his interest in the Hohenzollern Collection in this Library, that the subject was brought to the attention of the German Government. Since the gift has been made known in Germany, several of the provincial legislatures have signified their willingness to present the current or recent volumes of their proceedings or documents, and a shipment of Hohenzollern books, received from our German agent

in November, comprised volumes from the governments of Saxony, Brandenburg, Hannover, Westphalia, Pomerania, East and West Prussia, Hessen-Nassau, Kassel, and Wiesbaden. Publications from Posen, Silesia, and the Rhine Province are expected later.* It is pleasant to find that the building up here of a great collection of German history meets with such ready appreciation from the several German governments.

Mr. George B. Dorr, of Boston, has sent us from time to time packages of excellent current books, some of which have been laid aside for the library of the Department of Philosophy in Emerson Hall. Mr. F. E. Chase, of Boston, has sent us several bundles of theatrical literature. Mr. Ferris Greenslet has sent us over a hundred volumes of recent American poetry.

Mr. H. N. Gay, of Rome, Curator of Modern Italian History, has continued to send us volumes and pamphlets relating to Italian history, besides spending for us to excellent advantage the modest appropriation made from our funds for books on his subject.

Mr. G. J. Pfeiffer presented over 200 volumes and 100 pamphlets from his library, many of the volumes being early folios. Mr. W. S. Appleton, Jr., sent us 166 volumes and nearly 500 pamphlets from the library of his father, William Sumner Appleton, of the Class of 1860; and Mr. Alfred Bowditch a box of books from the estate of J. Ingersoll Bowditch. The Quarterly Journal of Economics sends us most of the books it receives from publishers for review.

To Professor Henri Cordier, of Paris, the bibliographer of China, we are indebted for some 45 of his own works, and to M. Henri Arctowski, meteorologist on the Belgian Antarctic Expedition, for 29 pamphlets of his own, mainly relating to the results of the Expedition. These gifts are mentioned simply as examples of what the Library is constantly receiving from all parts of the world.

Several interesting manuscripts have been received — a bundle of early commencement or exhibition parts from Mr. Charles P. Bowditch; an autograph letter from Charles Darwin to Dr. George Gulliver, from Mr. William K. Boyd; a manuscript Class-day poem of 1825, which turned out to be by Professor Frederick Henry Hedge, from Mr. William P. Upham, of Newtonville; six volumes of the diary of Waldo Higginson (1834-1858), relating largely to his duties as superintendent of the Lowell Railroad and later to the

* As this report leaves my hands, word comes that the Austrian Government is sending us, through the Hon. Bellamy Storer, the American Ambassador in Vienna, an extensive series of the Debates of the Austrian Parliament from 1873 to the present day.

affairs of the Arkwright Insurance Company, of which he was president and manager, from his brother, Col. T. W. Higginson, of Cambridge; two letters from President Holyoke, in 1762, to Jonathan Trumbull (Class of 1759) in regard to his delivering the valedictory oration when he should come up for his Master's degree, from Miss Henrietta W. Hubbard and Mr. Grosvenor S. Hubbard, of New York.

Gifts of money for the purchase of books have amounted to \$3,930. Mr. Lawrence S. Butler, '98, of New York, Mr. Harold J. Coolidge, '92, of Boston, Mr. William B. Cutting, Jr., '00, of New York, Mr. James Loeb, '88, of New York, Mr. E. S. Mullins, '93, of New York, Mrs. G. A. Nickerson, of Brookline, Mr. William Phillips, '00, of Boston, and Mr. John Harvey Treat, '62, of Lawrence, have continued their gifts of former years for books on Paris, China, Florence, Labor Papers, Folklore, London, and the Catacombs, respectively.

Other gifts have been as follows:—

Winthrop Ames, '95, of North Easton, Mass., \$500 for books on the Theatre.

Mrs. J. C. Bancroft, \$250 for books on Japan, to be repeated for a number of years.

Ellis Loring Dresel, '87, of Boston, \$50 for German Drama (the first of five annual gifts).

Hon. George Duncan, of Boston, \$50 for books on Scottish History.

Francis Skinner, '62, of Boston, \$1000 for books on Venice and Northern Italy.

Lucius C. Tuckerman, '97, of Boston, \$50 for books on Mexico (the first of five annual gifts).

A. C. White, '02, of New York, \$250 for additions to the Dante Collection or for other books at the discretion of the Librarian.

Horace E. Ware, '67, of Boston, \$25 for books on Folklore.

J. S. Ames, '01, of North Easton, \$100, and Hollis H. Hunnewell, '90, of Wellesley, \$25, for books from the Rowfant Library.

Professor Coolidge's gifts for books have amounted to \$579.62, and, in addition to this, 896 volumes have been received from him for the Hohenzollern Collection.

An anonymous donor has communicated his intention of increasing our strength in Dutch History by presenting books to be known as the John Lothrop Motley Collection.

A few other gifts will be found mentioned in the Treasurer's Report.

SPECIAL REFERENCE LIBRARIES.

The present extent of these libraries is as follows :—

SPECIAL REFERENCE LIBRARIES.	Perma- nent.	On Deposit.	Totals.
1. Chemical Lab. <i>Boylston Hall</i>	851	1,027	1,878
2. Physical Lab. <i>Jefferson Phys. Lab.</i>	53	369	422
3. Botanical Lab. <i>University Museum</i>	589	124	713
4. Geological Lab. <i>Do.</i>	124	..	124
5. Mineralogical Lab. <i>Do.</i>	586	231	767
6. Phys. Geography Lab. <i>Do.</i>	342	226	568
7. Zoölogical Lab. <i>Do.</i>	278	..	278
8. Classics. <i>Harvard Hall 3</i>	3,867	148	4,015
9. History. <i>Harvard Hall R. R.</i>	2,926	17	2,943
10. United States History. <i>Harvard Hall R. R.</i> . .	890	8	898
11. Political Economy. <i>Do.</i>	1,294	1	1,295
12. Social Questions. <i>Do.</i>	1,158	6	1,164
13. Child Memorial (English). <i>Warren House</i> . . .	4,525	90	4,615
14. Lowell Memorial (Romance). <i>Do.</i> . . .	1,511	6	1,517
15. German. <i>Do.</i>	1,288	..	1,288
16. French. <i>Do.</i>	2,547	..	2,547
17. Sanskrit. <i>Do.</i>	921	23	944
18. Semitic. <i>Semitic Museum</i>	1,397	..	1,397
19. Mathematics. <i>Sever 22</i>	577	80	657
20. Mining and Metallurgy. <i>Rotch Laboratory</i> . . .	46	17	63
21. Engineering. <i>Pierce Hall</i>	6,435	523	6,958
22. Music. <i>Holden Chapel</i>	438	..	438
23. Philosophy (Psychol. Lab.). <i>Dane Hall</i>	707	43	750
24. Education. <i>Lawrence Hall</i>	5,390	..	5,390
25. Fine Arts (incl. Gray and Randall Coll.). <i>Fogg Museum</i>	945	..	945
26. Architecture. <i>Robinson Hall</i>	1,000	13	1,013
27. Preachers' Library. <i>Wadsworth House</i>	95	..	95
28. The Study. <i>Phillips Brooks House</i>	59	..	59
29. Social Service Committee. <i>Phillips Brooks House</i>	82	..	82
Totals	40,866	2,952	43,818

1,814 volumes have been added to these special libraries in the course of the year, the largest additions being in Classics, 107; History, 344; Social Questions, 261; Engineering, 180; and Education, 453.

The Social Questions library has received valuable additions of books, reports, diagrams, plates, etc., from the German Commissioner to the St. Louis Exhibition, which will be incorporated with its collection when that is removed to Emerson Hall. Next year the library of the Department of Philosophy will be the largest gainer.

Mr. R. C. Robbins, '92, of Boston, provides the means by which a comprehensive and well selected reference library in Philosophy, including metaphysics, ethics, the philosophy of religion, logic, and aesthetics, is now being brought together which will be placed in Emerson Hall as soon as that building is ready for occupancy.

Last year, in order to economize, the Warren House libraries were closed in the evening. A gift of \$75 from Dr. K. G. T. Webster made it possible to open these libraries in the evening from April 1 to the close of the term. No large number of students use these libraries in the evening, but those who do prize the privilege very highly.

USE OF BOOKS IN THE COLLEGE LIBRARY.

The following table shows the use of books at Gore Hall in 1904-05 as compared with previous years:—

USE OF BOOKS.	1898-99.	1899-00.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
1. Books lent	63,005	63,712	63,673	58,443	63,183	66,851	65,506
2. Used in the building . (Recorded use only.)	25,595	23,715	24,180	22,583	24,924	23,111	26,565
Totals	88,600	87,427	87,853	*81,026	88,107	89,962	92,071
3. Over-night use of Har- vard Hall Reading- room	12,046	13,460	13,566	13,594	13,164	12,644	14,268

Of the constant use of the reserved books in the reading-room, and of the collections of reference books, periodicals, and United States documents, freely accessible to all, no record is possible. The use of the reading-room has, however, increased so much in the last few years that it has become necessary to add a second attendant at the desk, besides the page. A page is also now generally needed in the evening in addition to the single attendant then on duty.

The books shelved in the reading-room, together with those in the various special reference libraries in Harvard Hall, Warren House, and elsewhere, amount altogether to over 67,000 volumes to which direct access can be had by all students to whom they are of value. In addition the library of the Harvard Union now offers to its members over 7,000 books, mainly literature, biography, history, travel, and sport.

* The decline in the figures for this year is probably to be ascribed to errors in the statistics.

The extent of these open reading-room collections and their growth is shown in the following table :—

OPEN COLLECTIONS.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Bound Periodicals	3,140	3,210	3,266	3,341	3,516
Reference Books	4,235	4,393	4,471	4,645	4,685
Reserved Books	10,557	10,141	10,398	10,514	10,904
U. S. Documents	4,698	4,889	4,523	4,300	4,481
Totals	22,630	22,133	22,658	22,800	23,586

The increase in the number of books reserved is mainly due to the opening of new courses in history and government last year, requiring over 300 volumes. Additional volumes for History 1, with its 385 members, were also put out to supplement the collection in the History Reading-room in Harvard Hall.

Cards of admission to different sections of the book-stack continue to be given, on recommendation of an instructor, to all advanced students who need to go directly to the shelves for purposes of investigation in connection with their work. Such students have the same facilities for the examination and study of all the resources of the Library, in their chosen departments, that the officers of instruction enjoy. The use of these cards of admission to the book-stack is shown in the following table :—

ADMISSION TO THE BOOK-STACK.	1897-98.	1898-99.	1899-00.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
History	51	78	112	81	90	118	93	122
Science	33	43	30	36	37	45	38	28
Art and Archaeology (including Music)	34	38	33	33	55	46	42	57
Literature	90	90	85	74	80	125	144	107
Classics	52	60	70	58	70	73	62	57
Philosophy	11	19	19	22	27	31	22	18
Theology	3	5	1	1	14	2	9	8
Economics and Sociology	9	12	13	13	16	33	26	38
Education	2	8	4	7	4	25	10	11
Geography	14	2	3	9	15	6	7	5
Publ. of Learned Societies . . .	..	..	..	16	8	7	6	5
Total cards given	299	355	370	350	416	511	458	456
Total individuals admitted . . .	..	279	320	257	301	366	315	354
Total times of use	5,750	5,326	6,898	6,067	5,551	6,244	6,413	7,172

The number of individuals admitted is less than the number of cards given out, because the same person often receives permission to use different parts of the book-stack.

The number of students thus admitted is really more than we can find room for, and inconvenience frequently results. As the number of advanced students at Radcliffe increases, the requests for their admission to the stack increase also. We have granted these requests, so far as possible, since the Radcliffe library is not expected to satisfy demands of this kind.

The whole number of Harvard students registered at the Library as borrowers has increased from 2,104 ten years ago to 3,232 in 1904-05. To this number is to be added 364 officers (not including Austin Teaching Fellows and Assistants who are also registered as students) and 983 other persons, including students in the Episcopal Theological and New Church Schools, persons and institutions to whom the privileges of the Library have been granted temporarily, members of the families of former officers of the University, ministers settled in Old Cambridge, and so forth, making 4,579 names carried on our records during the past year.

During the summer of 1905, 82 professors and instructors from 33 different colleges came to Cambridge for purposes of study, and were made welcome in the Library. 849 volumes have been sent to 70 different colleges, schools, and public libraries, and in a few cases to individuals residing at a distance. To anyone engaged in scholarly investigation, we are glad to send whatever can be spared without injury to our own students, but we usually insist that such loans shall be made through a college or public library. 629 volumes have been lent to Radcliffe College for the use of its students. Application for these books is made through the librarian of Radcliffe, and the books are carried back and forth between Radcliffe College and the Harvard Library by a messenger.

The Sunday use of the reading-room is shown in the following table. The room is open, to readers only, every Sunday in term-time from one to half-past five in the afternoon.

SUNDAY USE.	1897-98.	1898-99.	1899-00.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Sundays open	35	35	35	35	36	35	36	34
Users	4,635	5,093	4,846	5,471	4,909	5,073	4,678	4,953
Average	132	145	138	156	136	144	129	145
Highest number . . .	297	260	236	226	225	227	173	187

That the number of readers does not increase is no doubt due to two causes, the existence of other opportunities for quiet enjoyment on Sunday afternoon, such as the library of the Union and the gatherings in Phillips Brooks House, and the permission to borrow reserved books from the reading-room on Saturday afternoon or evening to be kept out over Sunday.

SHELF DEPARTMENT.

Mr. Frank Carney, who has charge of the current work of the shelf department, reports 18,651 volumes permanently located in the stack during the year, making 344,740 volumes so placed of the entire Gore Hall collection.

No new classes have been taken up for reclassification during the year. 92,898 volumes still remain unclassified. Of these, 56,800 are on the old alcove lists, and the remainder, 36,098, are on the temporary shelf-lists begun in 1878 for new accessions in the classes not yet included in the reclassification, while about 5,200 additional must be allowed for the still unclassified portions of the Riant and Von Maurer collections, which have never been entered on the Library's shelf records. The books in these collections can, however, be traced by means of the numbers in the original printed catalogues in which they were first offered for sale. The longer the completion of the reclassification is postponed, the larger this collection of unclassified books will grow, and the greater becomes the task ahead of us. Whatever labor is expended on these books as they come in has no permanent result, for the marks now assigned are but temporary, and the real work of classification remains for the future. But our shelves are at present so crowded that it is out of the question to take up any of this work on an extensive scale.

I explained in my report last year why the books which were classified between 1878 and 1882 would some day have to be reclassified because of the faulty system of numbering adopted at that time. One section of this work has, I am glad to say, actually been done during the past year — the German History; and for this we are indebted to Professor A. C. Coolidge, who bore the expense of elaborating a new scheme of classification and notation, and of applying it both to the newly received volumes of the Hohenzollern Collection and to the 3,800 volumes of German History already on our shelves. The necessary clerical and mechanical work was done at the expense of the Library. This included retagging the books, renumbering them outside and inside, and writing out the new shelf-lists. Changing the shelf-marks on the cards must come next, but

this has to be postponed for the present, and in the meantime, whenever one of these books is called for by its old number, the new shelf-mark is ascertained by reference to a comparative list.

At the beginning of the summer, the Hohenzollern books, classified, numbered and shelf-listed, were still in the basement of Robinson Hall, the original library collection on German history had been renumbered and stood ready to be rearranged, and 340 other volumes had been brought together from other parts of the Library, and were to be included in the new scheme of classification for German history. It was so manifestly desirable to unite these three groups of books into one homogeneous and systematic collection, that it was worth some extra effort and expense to do so, in spite of our already overcrowded condition. We prepared for the change by moving over to Robinson Hall about 10,600 volumes of theology, liturgics, agriculture, law and medicine, being nearly the whole of the old alcoves 42 to 51. These books were, however, examined with some care before the collections as a whole were transferred, and about 500 volumes were picked out to be still retained in this building, being those which it was thought would be the most likely to be of some present use. These books were given new shelf-marks and the catalogue cards were changed to correspond, so that we might know that whenever a book numbered 42 to 51 should be asked for in future, it must be sought in Robinson Hall. By moving the Slavic collection from the sixth floor and the Austrian History from the fifth floor of the East stack to the basement of the West stack, to occupy the shelves left empty by withdrawing the old alcoves, and by transferring German Literature from the fifth to the sixth floor of the East stack, space was gained on the fifth floor to bring all the German History together. In other words, to find room for an addition of 3,700 volumes, about 28,500 volumes had to be moved. Besides the members of our regular staff engaged in the work, the services of four laborers were required for nine days and those of a wagon with driver for three and a half days. The result of the moving is most satisfactory, and we were able to place the books at the service of scholars who came to use them last summer far more efficiently than if they had been scattered.

The result of moving out the 10,600 old volumes is instructive. We selected for the transfer the group of books which we thought least likely to be in active demand, and from these we picked out, to be retained here, individual volumes and sets which previous experience showed might be wanted. Those sent away surely constituted a group of books as nearly "dead" as any group of the same size

that could have been selected. Yet we find that in the months of October and November alone, we have had to send over to Robinson Hall 71 times to meet the more pressing demands of readers. In the previous twelve months, our messenger had made 91 trips to Robinson Hall (in place of 35 the year before) and 82 trips to Perkins Hall, where a large part of our newspaper collection is deposited. 25,000 volumes are now stored outside the Library building, and are more or less inaccessible to the reader in Gore Hall. Yet this number is bound to increase from year to year until additional shelf-room is provided. But the inconvenience of not having our books at hand is not the only evil result of lack of space. The books in Gore Hall itself become each year less easily accessible. A year ago 185 shelves carried double rows of books; this year the number has increased to 450. Last year we had been obliged to shift the books on 3,800 shelves, in order to make room for accessions in their proper places; this year 6,500 shelves have had to be moved (not including the changes incident to moving the Hohenzollern books). This shifting is itself a serious burden on the shelf department, and being frequently delayed by press of other work, makes more difficult in the meantime the finding of books asked for. Overcrowding the shelves also frequently causes injury to the books on account of the inferior quality of the shelving which was installed in the West stack in 1894. In many unoccupied corners and even in passageways, temporary shelving put together in the Library has been set up to hold the overflow from adjacent parts of the stack.

I am glad to report the completion of an Index-Guide to the Shelves, corresponding roughly to the Index to the Subject Catalogue published several years ago. The incompleteness of our classification has left us with four different systems of shelf-marks still in use, — the old alcove numbers characteristic of the Library before 1877; the temporary numbers (Roman numerals) used since 1878 for books not yet permanently classified; the fixed location marks (of the general form 12276.8) used from 1878 to 1882 and continued since that time in the classes then arranged; and the modern marks (of the general form Arc 342.10) which will gradually displace all the others. This is of itself confusing, but our condition is made worse by the fact that the marks of the third kind have lost some of their original simplicity with the spreading out of these classes beyond the limits originally assigned them, as explained in my last report. The Index-Guide, for which Mr. Carney has long been collecting the material, but which was put together and printed very rapidly in the autumn, gives, first, plans of each floor of the

two stacks, showing at a glance what subjects each floor contains; second, a list of all the shelf-marks in use, with the subject which each one covers and the precise row in the book-stack where books so marked will be found; and third, an index of subjects, giving the corresponding shelf-marks under which books on those subjects are to be sought. This Guide will, I am confident, be found of very practical use by all who have access to the stack, and will also be of the greatest assistance in training our own runners and assistants.

CATALOGUE DEPARTMENT.

Mr. Currier, in charge of the catalogue department, presents the following facts and figures in regard to the work of this department.

CATALOGUE WORK.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Titles catalogued for College Library:					
Full and complete work	6,727	9,226	8,517	8,842	7,401
Continuations, analytical entries, etc.	5,958	4,263	4,450	5,573	6,819
Incomplete work	11,484	2,986	3,373	6,301	10,442
Total	24,169	16,425	16,340	20,716	24,162
Titles for Dept. and Special Libraries	3,361	6,594	3,846	4,121	3,562
Total titles catalogued	27,530	23,019	20,186	24,837	27,724
Cards added to Catalogue:					
Printed cards—					
College Printing Office	16,857	16,555	18,135	11,827	6,026
Library of Congress		2,700	5,440	7,011	7,981
A. L. A. Publishing Board	6,849	3,709	4,076	5,916	3,460
Total	23,706	22,964	27,651	24,754	17,467
Written cards	6,597	8,455	6,728	15,570	23,211
Total	30,303	31,419	34,379	40,324	40,678

Economies in administration fall heaviest on the catalogue department, and an examination of these figures shows what has been the inevitable but unfortunate result of attempting to handle a greatly increased number of books without any increase in staff, namely, that a smaller proportion than ever before of the titles recorded have been catalogued thoroughly and permanently, and that a much larger proportion have been done in a temporary and imperfect manner. As a settled policy, this is poor economy, but we have

been driven to it simply by lack of means and lack of room. A description of the methods adopted was given in some detail in my last report and need not be repeated. We have kept steadily in view the desirability of making some kind of author record on the public card catalogue for as large a number of titles as possible, and in this respect have modified our policy of a few years back, when we confined our incomplete work to an entry on the official catalogue alone. In our present position the necessity of keeping up two catalogues, a so-called official catalogue and a public catalogue, is felt as a distinct burden, yet the existence of the two catalogues is so bound up with the whole system of the Library, that any change of practice in this respect would be extremely difficult to carry out, and in some respects disastrous. Most great libraries find it expedient to maintain two catalogues, one for staff use and one for public use, and if in future the workrooms of the staff should be further removed from the public catalogue room, a duplicate catalogue would be almost a necessity. Of the general situation, Mr. Currier says:—

“The total number of titles handled (27,724) is the largest on record, the nearest previous total being that for 1900–01 (27,530), when the Riant books were recorded. Ten years ago the total was 10,358, the staff being slightly smaller. In analyzing these figures, it becomes evident that the energies of the catalogue department are being devoted more and more to recording in the briefest fashion the influx of books and pamphlets, the aim in view being to avoid the acquisition of duplicates and to make it possible for the library officials, at least, to find a given book of which the author and title are known. The necessity of maintaining an accurate, scholarly and complete catalogue is rapidly falling into the background. The subject catalogue especially is suffering from long continued neglect, so much so that it is already in bad repute with many users of the library. In spite of the relief afforded by using catalogue cards printed by the Library of Congress and by introducing the temporary method of cataloguing described in last year's report, the statistics show that of the 24,198* new titles catalogued, only 11,871, or 49 per cent., were permanently disposed of. In addition to these, 3,360 titles were inserted in the public author and subject catalogues by temporary methods, making 15,231 titles, or 63 per cent. of the whole, made available for public consultation.† Deducting from the 11,871 titles permanently catalogued, 2,650 titles cata-

* Deducting 3,526 continuation entries from the total of 27,724 reported above.

† 7,082 titles (including 2,187 titles of Von Maurer books and many titles of German dissertations and other pamphlets) and 1,885 titles of books in department libraries, making up the other 37 per cent., are entered on the official catalogue only.

logued with Library of Congress cards, 1,699 catalogued with A. L. A. cards, and 519 obituary cards, there remain only 7,003 titles (29 per cent. of the whole) permanently catalogued by our own staff. If this figure continues to diminish, cataloguing will become a lost art with us. It must be remembered, too, that this figure represents, as a rule, the simpler books, for the more difficult ones are weeded out for "temporary" methods. It is hardly necessary to point out that the time spent on abbreviated and temporary methods is largely time wasted, and much of the work put into these books will have to be overhauled at some future day."

The decline in the proportion of printed cards inserted in the catalogue, 17,467 out of 40,678, or 43 per cent., instead of 27,651 out of 34,379, or 80 per cent., two years ago, also indicates a deterioration in the character of the catalogue and a less perfect system of duplication and coöperation with other departments. The charge for printed cards from the College printer has dropped from \$1,370.49, two years ago, to \$390.21 in 1904-05. This considerable saving is in part due to the use of a larger number of Library of Congress cards, but is mainly the result of substituting written cards for printed in connection with the shorter methods of work employed.

The use of Library of Congress printed cards continues to give satisfaction. Of the books catalogued in full and permanently for the College Library, 28.9 per cent. were catalogued by using these cards, against 23.5 per cent. last year and 17.1 per cent. the year before. The cost of these cards comes to about 3.3 cents per title, or .9 of a cent a card. The saving in expense over cards printed by our own printer is very considerable, but it is a saving which cannot be stated in precise terms, because the processes involved in the two methods differ.

At the request of the Library of Congress, we prepared for the Lewis and Clark Exposition in Oregon a sample catalogue of about seventy of their cards to show our method of treating them.

We continue to coöperate with four other libraries in cataloguing the articles in about 250 current periodicals, cards for which are printed by the A. L. A. Publishing Board, but many of the titles received we have been unable to incorporate in our catalogue owing to pressure of other work.

The catalogue of the Molière collection, made at the expense of Mr. Hyde, the donor of Professor Bôcher's Molière library, was practically complete early in the year, but waited until the last of June for the printer. It is now passing through the press and will appear in print in the course of the winter. The Von Maurer library,

received in the summer of 1904, numbering 4,534 volumes,* with additions received in the course of the year for the Hohenzollern Collection, amounting to over 1,200 volumes, and the 600 volumes from Professor Norton's library, have required attention this year in addition to the usual current accessions. A substantial part of the Scandinavian books has been fully catalogued (with the help of Mr. Christian Larsen, of the Graduate School); for the remainder of the Von Maurer library we must be content for the present with a record on the official catalogue alone. For the Norton books received at the Library we have at present only a rough preliminary record, but we have had cards made for all books remaining at Professor Norton's house which are not duplicated in Gore Hall.

By means of extra assistants temporarily employed during the spring and summer, much of the changing of shelf-marks which had been necessarily postponed was brought up to date, and the cards for the medical books sent two years ago to the Boston Medical Library were removed from the public catalogue and cancelled. We had supposed that these cards could be suffered to remain as a matter of record, without causing us annoyance. But their presence in the catalogue led to such frequent requests for the books as to be really troublesome, and we were compelled to remove them.

Our record of "continuations" received by gift, such as annual reports of institutions, societies, and government departments, and other similar publications, has long been unsatisfactory and incomplete. Many of them have been sent directly to the shelf or to the pamphlet files without any record being made in the catalogue or elsewhere, and we have often been at a loss to say just what we had or to find what we knew had been received. The whole system has been lately overhauled and put under definite rules which will insure an immediate and simple record of everything received at a minimum of labor. To enter each successive number on the public catalogue as received is unnecessarily burdensome, but to let such publications accumulate without any record on the catalogue is unbusinesslike. In future, the fact that we have reports of a certain institution will be recorded in the catalogue by cards in this form:—

Cambridge (Mass.) social union.

Annual reports.

Detailed statement not entered on these cards.

(Recorded on Continuation Cards.)

* The Scandinavian section of this valuable library, containing 2,658 volumes and 2,911 pamphlets, besides maps and newspapers, had been received in January, 1904.

No change will have to be made as successive numbers come in. The record once made in this simple form is made once for all. The "Continuation Cards" referred to are kept on file at Mr. Gookin's desk, where all books and pamphlets coming to the Library by gift are first received. The record of a new number received is made immediately on the appropriate card, successive numbers of the same report being entered on successive lines and the date of reception is noted. If there appears to be a gap in the set and an earlier number has failed to reach us, the fact is noticed and the missing part can be asked for when that just received is acknowledged. No further catalogue record is needed and the volume or pamphlet goes directly to its place on the shelves. To complete the record on these cards of what may have gone unrecorded in previous years, and to insert the proper entry card in the catalogue, is somewhat troublesome at the beginning, but much time will be saved in the end, and the system, once fairly started, is entirely simple and satisfactory. These Continuation Cards already amount to about 3,500, and preserve the record of that number of publications received with more or less regularity by gift or, in a few cases, by purchase.

Two years ago, in my report, I quoted Mr. Currier's estimate that, "including books lately received and now in process of cataloguing, books received in recent years and recorded on the official catalogue only, certain special collections, such as the Riant MSS. and the Judeo-German and Slovak collections, bound volumes of pamphlets, and some sets of printed cards for articles in long series (not yet inserted in the catalogue), we have on hand at the close of the year about 33,870 titles uncatalogued or incompletely catalogued." This number Mr. Currier reports has now been diminished by 5,578 titles in the ordinary progress of our work, but, on the other hand, it has been increased by the following items: books catalogued during the last two years on the official catalogue only or on the public catalogue without due care, 16,743; additional printed cards for analytical work, from the A. L. A., 935; Von Maurer and Hohenzollern titles entered only on the official catalogue or on the public catalogue without due care and completeness, 4,458; Von Maurer volumes at present unrecorded, 450; Von Maurer pamphlets at present unrecorded, 2,500; total, 25,086, making a net addition to the number reported two years ago of about 19,500 titles. That is to say, we have an accumulation of about 53,000 titles which must sometime be reëxamined and completed. Nothing could more strongly emphasize the necessity of making some provision at the earliest possible moment for at least a moderate enlargement of our building and our staff.

ORDERING DEPARTMENT AND FINANCIAL CONDITION.

The following table shows the income of our book funds, receipts from other sources for the purchase of books, and expenditure for books during the last six years.

INCOME AND EXPENDITURE.	1899-00.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
From book funds, —						
Balance from previous year .	\$5,023	\$5,136	\$4,534	\$4,036	\$3,208	\$4,074
Income of the year	18,475	19,306	19,972	19,446	19,992	19,560
Total available	23,498	24,442	24,506	23,482	23,200	23,634
Spent for books	18,362	19,908	20,470	20,274	19,126	18,853
Balance to next year	5,136	4,534	4,036	3,208	4,074	4,781
Special gifts, sales, etc. —						
Balance from previous year .	2,940	936	1,932	2,276	1,835	1,707
Received during the year . .	5,137	6,115	3,411	4,457	4,406	4,611
Total available	8,077	7,051	5,343	6,733	6,241	6,318
Spent for books	7,141	5,119	3,067	4,898	4,534	3,504
Balance to next year	936	1,932	2,276	1,835	1,707	2,814
Total spent for books, —						
College Library	\$25,503	\$25,027	\$23,537	\$25,172	\$23,660	\$22,357
Department Libraries (books ordered through Coll. Lib.)	4,748	4,484	7,245	7,389	6,214	5,628
Total	\$30,251	\$29,511	\$30,782	\$32,561	\$29,874	\$27,980

As part of a general plan of retrenchment in administrative expenses, the Corporation made a new apportionment of the income of the Pierce, Greenleaf, Jarvis, and Treadwell funds, these being the only Library funds which may be used either for buying books or for administration. The total income of these four funds in 1904-05 was \$22,293.24, of which, under the new rule, \$3,809.28 fell to books, and \$18,483.96 to administration. This was a decrease of \$976 in the book portion from the previous year, but only brought \$799 additional to administration, owing to a shrinkage in the income of the Greenleaf Fund. The general rate of income, however, increased, so that, in spite of the withdrawal of \$976, the general income for books was diminished by only \$432. In expectation of a larger decrease, the appropriation of the income among the different departments of study was made in the autumn on a basis of one thousand dollars less than in the year before, and strict

instructions were given not to allow the orders to overrun the sums allotted. The total estimates for the year (new orders, outstanding orders, continued works, periodicals, etc.) amounted to \$18,790, the actual purchases (allowing for unpaid bills carried over at the beginning and end of the year) to \$18,428, while the income of the book funds amounted to \$19,560. We therefore begin the current year with a larger free balance than before, and have been able to submit to a further reduction of \$500 in our book income without diminishing the scale of our appropriations. It should be stated that this withdrawal of a portion of the income available for books last year did not increase the sum to be spent on the administration of the Library, but simply diminished to that extent the balance of expense which the College has to make up from its unrestricted income. The \$500 withdrawn this year, on the contrary, is expressly for the purpose of increasing by the same amount the sum to be spent in the Library for other purposes. It is to be hoped that both reductions are of a temporary nature, for the diminution in book-buying power is felt unfavorably by many departments. But until some substantial increase can be made in our regular income for administration, it is wise to curtail to a moderate degree the purchase of books.

The work of the ordering department, in charge of Mr. Potter, is summed up in the following table, which gives the figures of the last three years and the averages of two previous five-year periods.

WORK OF ORDERING DEPARTMENT.	1890-95. Average.	1895-1900. Average.	1902-03.	1903-04.	1904-05.
New orders, —					
Total received and examined . . .	5,132	7,327	13,566	17,397	9,577
Already owned or ordered	1,193	1,725	4,921	6,930	3,428
Forwarded	3,800	5,036	8,477	11,041	5,984
Estimate of cost, —					
For the College Library	\$9,079	\$10,145	\$14,982	\$16,995	\$13,191
For Departments	2,902	3,223	4,621	3,512	2,954
Total estimated cost	11,981	13,368	19,603	20,507	16,145
Shipments received from abroad . .	28	33	76	81	61
†No. of vols. bought for College Lib.	4,416	5,736	7,731	7,870	7,636
†Total gifts examined and passed on	16,050	16,455	20,799	26,268	20,982

† Excluding volumes formed by binding periodicals and pamphlets, but including volumes received on exchange account from other libraries.

‡ Including both volumes and pamphlets. See p. 214.

An inspection of the table shows that during the year 1904-05 there was a welcome falling off in the work of the department from the exceptionally heavy figures of the year before. Work on the Von Maurer library enters into the figures under "New orders" for 1903-04. These were increased also by hundreds of other orders for the Hohenzollern Collection, while in 1904-05 this work diminished in anticipation of Mr. Lichtenstein's projected expedition to Germany. During the year now beginning, in which Mr. Potter, the head of the department, is away on leave, I hope to see a still further reduction in the number of orders passing through our hands.

STAFF.

Mr. Tillinghast was absent on leave throughout nearly the whole year covered by this report. In his absence, a larger responsibility fell to Mr. Currier, who has charge of the catalogue department. Mr. Potter has leave of absence for the year 1905-06.

I cannot close this report without expressing my appreciation of the spirit shown by the staff in general, all the members of which, in spite of the increasing difficulties and inconveniences attending the Library's present crowded condition, have worked with an uncomplaining cheerfulness, and have entered heartily into the methods by which we have attempted to handle a greatly increased amount of work with no substantial increase in the number of workers. I think I may also express, on their behalf, the satisfaction felt in the privilege which we have all enjoyed the last two years of one free half-day a week during the six summer months. This has, I am sure, contributed to the general good health of the staff, and to the freshness and excellence of their work.

It gives me pleasure to mention the fact that in March of this year, Mr. Kiernan completed fifty years of continuous service in the Library — a service marked by a spirit of unvarying helpfulness and by a practical knowledge of the contents of the Library which has excited the admiration and gratitude of a wide circle of friends, including hosts of professors and students in this University and of scholars who have come here from a distance.

WILLIAM COOLIDGE LANE,
Librarian.

THE GRAY HERBARIUM.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,— During the past academic year the following changes in the staff of the Gray Herbarium have occurred. Dr. J. M. Greenman resigned July 1st his assistantship in order to accept the position of Assistant Curator at the Field Columbian Museum in Chicago. Except for an interval of two years' foreign study, Dr. Greenman has been connected with the Gray Herbarium since 1894 and has been the author of several of its published Contributions. For some years the tropical investigations carried on at the Herbarium have been largely in his charge. His resignation is much regretted. Since June 1st, 1905, Mr. H. H. Bartlett has been employed as assistant. Additional bibliographical work, involved in the issue of the Card Index of new Genera, Species and Varieties of American Plants, has been provided for by the employment of Miss H. E. Day as clerical assistant. Mr. Alexander E. Wight was commissioned from February to April to collect plants for the Gray Herbarium in the Bahama Islands.

The more noteworthy accessions to the Herbarium have been as follows:— By gift or in exchange: from Mr. John Macoun, 384 plants of British America; from the Royal Botanical Garden at Sibpur, 124 plants of British East India; from the United States Department of Agriculture, Division of Agrostology, 1501 specimens, chiefly grasses from the western United States; from Mr. F. E. McDonald, 433 plants of Illinois; from Mr. J. D. Sornborger, 473 plants of Newfoundland; from Dr. J. V. Haberer, 300 plants, chiefly of the lake region of Central New York; from Mr. Charles C. Deam, 515 plants of Guatemala; from the Ames Botanical Laboratory, 164 ferns of Florida collected by Mr. A. A. Eaton; from Dr. G. G. Kennedy, 100 specimens of Halsted's Weed-seeds; from Professor E. Paoletti, 163 plants of northern Italy; from Mr. F. F. Forbes, 166 plants of Quebec; from Mrs. James M. Spencer, 200 plants of the Mediterranean region; from Mr. A. W. Driggs, 296 plants of Connecticut; from the Rev. H. L. Everett, 170 plants of Brazil. By purchase: from Mr. A. H. Curtiss, 306 plants of the Isle of Pines; from Mr. W. E. Broadway, 377 plants of Grenada; from Dr. E. Palmer, 410 plants of Mexico; from Dr. R. M. Harper, 417 plants of Georgia; from Mr. L. R. Abrams, 302 plants of

California; from Mr. B. F. Bush, 539 plants of Texas; from Dr. E. Pritzel, 914 plants of Australia; from Mr. A. Fredholm, about 5000 plants of southern Florida; from Mr. A. E. Wight, 1378 plants of the Bahama Islands. Collected by the staff: by Mr. Pringle, 574 plants of Mexico; by Dr. Greenman, 1268 plants from the mountains of West Virginia; by Professor Fernald, 1600 plants of the Gaspé Peninsula, Quebec; by the Curator, 500 plants of central Illinois.

The entire number of specimens received from all sources has been 21,473. The number of sheets of mounted specimens added to the organized portion of the Herbarium has been 14,008.

The library has been increased by 239 volumes and 271 pamphlets. The development of the library of the Gray Herbarium, like that of the Herbarium itself, dates from the beginning of Dr. Gray's botanical activity and has been carried on continuously and with great care for more than seventy years. Notwithstanding the excellence of the library which has thus been built up, it still lacks many of the earlier botanical works. A great part of these might yet be purchased and indeed are being secured as rapidly as the limited means of the Herbarium permit, but the market price of such works is increasing at a rate so alarming that the matter of a more speedy purchase of the desiderata of the library demands careful attention. It is by no means rare to find, for instance, in the catalogues of English dealers, volumes which ten or twelve years ago might have been obtained at three to five shillings each, now quoted at a pound apiece. It is therefore safe to say that if the Gray Herbarium through special gift should be put in a position to buy more freely the rarer works needed to complete its library, purchases could now be made which ten or twenty years hence could scarcely be made at all or only at prices a hundred per cent. greater than those at present current. The necessity of a historically complete library to the systematic biologist can scarcely be too highly emphasized. In some other subjects, as, for instance, in medicine, engineering, etc., a work several decades old is much out of date and is likely to have scarcely more than a sentimental importance. In systematic botany and zoölogy on the other hand, owing to the fact that the nomenclature is upon a historical basis, there is constant need to examine the earlier literature of the subject.

During the past summer the Curator spent three months in visiting the herbaria at Paris, Geneva, Vienna, Berlin, Copenhagen, London, and Kew, and took more than four hundred photographs of type-specimens of the rarer tropical American plants, thus consider-

ably adding to an already valuable collection of photographic plates, which has been found a highly useful adjunct to the plant-collections of the Herbarium. The journey was also successful in somewhat extending the exchange relations of the Herbarium. The Curator represented officially the botanists of Harvard University, the American Academy of Arts and Sciences, the New England Botanical Club, the Boston Society of Natural History, and the Vermont Botanical Club, at the International Botanical Congress at Vienna, an assembly notable in the history of botany and productive of very promising legislation regarding the involved and controversial subject of plant-nomenclature.

Professor Fernald spent the months of July and August continuing his botanical exploration of the Gaspé Peninsula in eastern Quebec, and obtained a large series of specimens greatly amplifying the knowledge of its exceptionally interesting and complicated flora.

Mr. Pringle has continued with success his long and arduous exploration of the flora of Mexico, his work this season having again resulted in the discovery of many new or imperfectly known species.

Miss M. A. Day, librarian of the Herbarium, has continued the editing of the Card Index of new Genera, Species, and Varieties of American Plants, and with some clerical aid has issued sets of 8016 cards during the year. The work has been so carefully managed that by the sale of duplicate sets it has more than repaid the expense incurred. This Index, already containing about 40,000 cards, has become an important bibliographical aid in systematic botany. Besides monographs and irregular publications, it covers more than sixty botanical magazines and scientific serials.

To accommodate the growth of the main herbarium it has been necessary to fit with cases a store-room on the second floor. The room is small and ill-lighted, but it has seemed unavoidable to move into it the ferns, fern-allies, and conifers in order to relieve growing pressure in the other rooms. To provide the additional case-room necessary, a block of eight steel cases and a half block of four of similar character have been installed at an expense of about a thousand dollars. A steel book-stack has also been added in the library with a capacity of 1500 volumes.

Mention was made, in the last report, of the death of Mrs. W. B. Potter, a liberal patron of the Gray Herbarium and for some years a member of its Visiting Committee. Mrs. Potter bequeathed to the President and Fellows of Harvard College the sum of \$50,000 with the provision that it be known as the W. B. Potter Fund, and

its income devoted to the support of the Gray Herbarium. Mrs. Potter also made the Gray Herbarium one of the residuary legatees of her large estate, and it is thus probable that the sum of her bequests when received will considerably exceed the amount mentioned. These bequests are much the largest ever received by the Herbarium, and their importance to the establishment would be difficult to overstate. Heretofore the income derived from the endowment of the Herbarium has amounted to less than half the sum needed for the annual expenses, the large deficiency having been made up by the returns from copyrights, gifts for present use, and sales of publications, etc., sources yielding a fluctuating support. Mrs. Potter's bequests will so augment the vested funds that their income will considerably exceed the probable receipts from other sources. In consequence, the income of the Herbarium will be not only larger but far more reliable than in the past. The settlement of Mrs. Potter's estate is likely to be delayed for some months yet.

During the past year it has again been necessary to cover a considerable part of the expenses of the Herbarium by gifts for present use. Contributions to this end have been gratefully received from about one hundred and fifty-six donors, whose gifts are specifically stated in the Treasurer's report. Once more the Gray Herbarium owes a special debt of gratitude to the members of its Visiting Committee, without whose cordial interest and liberal aid it would have been quite impossible to complete the year free from debt.

During the year the staff of the Herbarium has published twenty-one papers, of which the following from their scientific interest may be specially mentioned : —

The American Representatives of *Pyrola rotundifolia*. By M. L. FERNALD. *Rhodora*, VI, 197-202. 1904.

Contributions from the Gray Herbarium, N. S. — Vol. I (Nos. i-xxv) — Title-page, contents, dates of issue, errata, and index. Compiled by M. A. DAY. Cambridge, 1904.

Draba incana and its allies in northeastern America. By M. L. FERNALD and C. H. KNOWLTON. *Rhodora*, VII, 61-67. 1905.

Contributions from the Gray Herbarium, N. S., No. xxix. New plants from the Islands of Margarita and Coche, Venezuela. By J. R. JOHNSTON. *Proc. Am. Acad.*, XL, 683-698. 1905.

The North American Species of *Eriophorum*. By M. L. FERNALD. *Rhodora*, VII, 81-92, 129-136. 1905.

Contributions from the Gray Herbarium, N. S., No. xxx. A Revision of the Genus *Zexmenia*. By W. W. JONES. *Proc. Am. Acad.*, XLI, 143-167. 1905.

Contributions from the Gray Herbarium, N. S., No. xxxi. I. Descriptions of Spermatophytes from the southwestern United States, Mexico, and Central America. By J. M. GREENMAN. II. Diagnoses and Notes relating to American Eupatorieae. By B. L. ROBINSON. *Proc. Am. Acad.*, XLI, 235-278. 1905.

The Genus *Arnica* in northeastern America. By M. L. FERNALD. *Rhodora*, VII, 146-150. 1905.

A new *Krynitzkia*. By J. M. GREENMAN. *Bot. Gaz.*, XL, 146-147. 1905.

B. L. ROBINSON, *Curator*.

THE BOTANIC GARDEN.

TO THE PRESIDENT OF THE UNIVERSITY: —

SIR, — As Director of the Botanic Garden, I have the honor of presenting the following report for the academic year 1904-05.

The weather during the greater part of the growing season was favorable for most of our out-door plants, and we had comparatively few losses during the year. We had, however, a steady contest with the two sorts of destructive moths, and it was only after heavy expenditure of care and labor that any satisfactory progress was made. Many of our large trees have rough bark, under the flakes of which the gypsy moths find refuge from the heat of summer. The removal of these flakes has not only been a difficult task, but it has in some cases changed the appearance of the trees in a remarkable manner. It is more than possible that, on account of these serious injuries, we may be obliged to cut down a few of the large specimens of trees which date from the foundation of the Garden in 1807. We shall be sorry to lose these stately trees which have for many years added much to the attractiveness of our grounds, but at present they are a menace to the rest of our plants.

The general distribution of species in the front area has not been much changed, except in the special plots. These continue to attract considerable attention from visitors, and appear to deserve some enlargement. It is certain that our Shakspeare plot, which has been described in numerous illustrated magazine articles, is established in popular favor. We regret that it is impossible to give more space to this interesting group, owing to the fact that it now encroaches somewhat on the systematic beds.

Two years ago, we were obliged to fill up the old pond near Raymond Street because its water, having become stagnant from loss of the supplying springs which had been cut off by the Raymond Street sewer, was highly offensive, and was a prolific breeding-place for mosquitoes. In this filled pond we planted Monocotyledonous plants, especially the Grasses and certain species of Iris, hardly expecting that they would there thrive. But they have become an attractive feature of our display, and are likely to improve year

by year. During the past season they have flowered abundantly and are now well established in their new home.

We have nothing but praise for the thoroughness with which the extensive and costly repairs of our greenhouses were made last year and this. The leakage of heat during the winter was slight, and we were no longer troubled by the constant drip from melting snow. It must be remembered that such repairs, however thorough, are only a makeshift, and that, sooner or later, our whole range on the lower terrace must be rebuilt along modern lines. When such a range is in immediate prospect, architects' plans, which have long been studied out in every detail, will be presented for the consideration of possible benefactors. A range of this nature will comprise, in addition to our existing outfit, a spacious house for aquatics which will be of great use to the students of Cryptogamic Botany.

The Memorial Greenhouses and Laboratory have been repainted and fitted with improved tables. A part of the floor of the Laboratory has been suddenly invaded by destructive white ants, and the underpinning has been eaten away. This condition of affairs did not become serious until last July, although we felt that trouble was impending. Provisional shoring-up of the floor answers for the present, but, if matters grow worse, we shall be obliged to take away all the wood of the floor, and make a cement floor instead. The fittings of the Laboratory have proved efficient in every way. Of course, in these days, new appliances in laboratories become obsolete in a short time, but ours will not have to be replaced for a good while yet.

The Cuban Experiment Station continues to do good work. We receive from the efficient superintendent, Mr. Grey, full and satisfactory reports of progress. The experiments outlined have been carried through successfully. One series has proved of so much interest to West India planters that Sir Daniel Morris has had the report published and widely circulated. Mr. Grey has had much bad weather to contend with, but he has shown much courage under vexatious circumstances, particularly during the spring, when an unprecedented rainfall washed away a large number of his choice plants. The range and quality of our tropical plants at this branch of our Garden are steadily changing for the better. But, owing to the great difficulty of selecting certain varieties of tropical plants of economic importance, and getting them safely transported to a point which has been so far from direct lines of West India traffic, it has seemed best to establish new methods of procuring such specimens.

Therefore, our Head Gardener, Mr. Robert Cameron, has been detailed for this special work, and is now journeying through the islands, in search of the plants we require to supplement our present stock. These plants he is to convey from a point in southern Jamaica to Santiago, Cuba, and thence to the station at Soledad near Cienfuegos, with no change of freight. Hitherto we have had to break cargo at New York, in mid-winter, and reship to Cuba. Mr. Cameron will also send direct to Cambridge a considerable shipment of palms and other desirable plants for our greenhouses, and, since these can come in the vessels which land freight in Boston, we are confident of reasonable success.

The changes in the Laboratories connected with the lecture-room at the Garden have proved satisfactory to the teachers in the Summer School of Botany, and the rooms have served also a good purpose for the regular College electives.

The Laboratory at the Museum for the large classes in Botany needs immediate attention from the proper authorities. The Overseers' Committee on Botanical Instruction has taken the matter in hand, since all of the members were convinced by personal inspection that the ventilation and lighting of the present rooms are totally inadequate. The class in the first general elective had this year more than two hundred men at the tables, in a space which ought not to hold more than fifty students. It has been shown by the success of the ventilation in the Nash Lecture-room that the laboratories can be made to serve for even more than two hundred students. The cost will be rather under five thousand dollars.

The Museum has continued to prove attractive to large numbers of visitors. The Cryptogamic collections on the lower floor are well placed and constitute an interesting feature of the exhibition.

The Ware Collection of Blaschka Glass Models has received a considerable number of new specimens within the academic year, all of which have been incorporated in the general morphological, systematic, and economic series. The following figures indicate the approximate completeness of the systematic collection for illustrating the great groups of flowering plants: 147 Natural Orders; 520 genera; and 687 species. The cross-sections and other magnified details number about 2,500. In the large room, the cases are filled with enough specimens to exhibit the affinities of every one of the important series of Phanerogamic plants.

The whole Collection has been again thoroughly examined by Dr. Greenman, and his catalogue of determinations is nearly ready for

the press. Its publication will follow the arrival of the next invoice, possibly in March.

It is with sincere regret that we announce the resignation of our efficient nomenclator, Dr. Greenman, Instructor in Botany and Assistant in the Gray Herbarium. During the past year he placed our students' Herbarium in excellent order, and arranged our large collection of duplicates in such manner that it will require little care for some time.

Great additions have been made to the Economic collections. We note especially large invoices from the Philadelphia Commercial Museums. These accessions possess for us a peculiar interest, since they have been selected by one who was formerly an assistant in the botanical courses here, and who is now aiding us by his services as member of the Overseers' Committee on the Garden and Museum, Professor W. P. Wilson, Director of the Philadelphia Museums.

A new form of "container" for the display of dry specimens of useful products of plants has been devised by the Director during the past year, and has been subjected to severe tests. These tests having proved that the new jars, or "containers," satisfy every reasonable requirement as to clearness, attractiveness, and low cost, they are being installed rapidly in our cases.

The collection of fossil plants has received through purchases made by Professor Robert T. Jackson, now in Europe, important accessions designed especially for advanced students. Through the kindness of Mr. Elliot C. Lee, this collection, long inaccessible to students, has now been put in such condition that all of its treasures can be utilized. It is to Dr. Alexander Agassiz, Director of the University Museum, that the Botanical Department now owes the use of the large collections of fossil-plants brought together by his father, the late Professor Louis Agassiz. Obviously only a few of these plants can be shown to the general public, but the room in which the well-arranged suites of specimens are now placed is open to all properly qualified investigators.

The Director again takes pleasure in acknowledging his great indebtedness to the members of the Overseers' Committee on the Botanic Garden and Botanical Museum. As will be seen by the report of the Treasurer, the fiscal year of this establishment has been on the whole satisfactory. But without the hearty coöperation of the Committee, this would have been impossible. Attention must again be called to the continued need of the Garden for a

permanent endowment adequate to its modest wants. It is exceedingly mortifying to be obliged to bring before the public, year after year, the needs of the Garden and Museum. It is to be earnestly hoped that this condition of affairs may be speedily changed for the better by some endowment which would yield annually, in addition to our present invested funds, about five thousand dollars.

GEORGE LINCOLN GOODALE, *Director*.

THE ARNOLD ARBORETUM.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—I have the honor to submit the following report on the progress and condition of the Arnold Arboretum during the year ending July 31, 1905.

The exceptionally dry summer and autumn of 1904, preceded and followed by winters of unusual severity, have done serious injury in the Arboretum, and trees that have been growing here for from twenty-five to thirty years and appeared thoroughly established have died. Trees native to the northern United States have suffered more than those from other regions, and the conifers of the collection, usually the first to feel the effects of dryness and low temperature, have this time showed themselves able to bear unfavorable conditions better than the deciduous-leaved trees.

The brook that enters the Arboretum from the grounds of the Adams Nervine Asylum flows irregularly. For a few weeks of the year it is a torrent, tearing away its banks and choking its bed with stones and gravel; for the remainder of the year it is a dry and unsightly ditch. The annual cost of repairing the damage done by the floods of this brook has been considerable, and to avoid this expenditure, and to improve the appearance of the north meadow, the brook has now been carried under ground in a concrete culvert from the point where it enters the Arboretum directly across the meadow to the point where it flows out of the Arboretum under the Arborway. The length of this culvert is 1,237 feet and it has cost \$7,321.75. The money for this improvement was provided by the members of the Visiting Committee and their friends.

For several years the Arboretum has leased from the Trustees of the Adams Nervine Asylum a house with a small piece of ground on Centre Street for the home of the Superintendent and as a nursery. The continuance of the lease of this property is uncertain, and as there is not in the grounds of the Arboretum a site for a house for the Superintendent, the Visiting Committee has purchased for his use a house and about 42,000 feet of land at the corner of Centre and Orchard Streets, Jamaica Plain. The land is close to the principal entrance to the Arboretum and is well adapted for the purpose for which it is intended. It cost \$21,000.

The permanent planting of the large collection of North American Thorns (*Crataegus*) which has been raised here during the last four or five years was begun in the spring. The eastern and southeastern slopes of Peter's Hill have been used for the purpose, and groups of three hundred species have already been planted.

The interchange of plants and seeds with other horticultural and botanical establishments has been continued during the year. 10,801 plants (including grafts and cuttings) and 929 packets of seeds have been distributed as follows: To the United States, 8,716 plants and 52 packets of seeds; to Canada, 389 plants and 47 packets of seeds; to Great Britain, 558 plants and 152 packets of seeds; to the continent of Europe, 1,138 plants and 567 packets of seeds; to Japan, 99 packets of seeds; to China, 2 packets of seeds; to Java, 6 packets of seeds; to India, 4 packets of seeds. There have been received during the year 6,544 plants and 713 packets of seeds.

During the year 4,298 sheets of dried plants have been added to the herbarium, and 500 sheets of duplicates have been distributed.

The library has received, by gift, 1,429 bound volumes and 587 pamphlets, including a number of rare and expensive books purchased from a fund of \$5,000, given to the Arboretum by Mr. Francis Skinner, of Boston, for this purpose.

During the year the usual instruction has been given by Mr. J. G. Jack at the Arboretum to students of landscape-gardening from the Institute of Technology and to University students of forestry, and to a spring class of thirty-four special students, largely composed of teachers. The Arboretum has also been used by other teachers to illustrate field lectures on botany and dendrology.

During the year Mr. Alfred Rehder, pursuing his work in Europe for the Bradley Bibliography of dendrological literature, has examined the libraries of the botanical and forestry establishments at Munich, Göttingen, Dresden, Vienna, and Buda-Pesth. Mr. J. G. Jack has started on a journey to the East to obtain material for the Arboretum in Japan, Korea, and northern China, and Mr. George R. Shaw has again visited Mexico and Europe to prosecute his studies of the genus *Pinus*.

The following books and papers have been published during the year:—

A Manual of the Trees of North America exclusive of Mexico. By C. S. SARGENT. 826 pp., with 642 illustrations from drawings by C. E. FAXON. Houghton, Mifflin & Co. March, 1905.

Trees and Shrubs, or Little Known Ligneous Plants. Part IV, completing Volume I, and containing contributions from ALFRED REHDER,

GEORGE R. SHAW, and C. S. SARGENT, and 25 quarto plates from drawings by C. E. FAXON. Houghton, Mifflin & Co. April, 1905.

The Pines of Cuba. By GEORGE R. SHAW. *The Gardener's Chronicle*, series 3, XXXV, p. 179, with figure.

Pines of Western Cuba. By GEORGE R. SHAW. *The Gardener's Chronicle*, series 3, XXXIX, 98.

Pinus leiophylla. By GEORGE R. SHAW. *The Gardener's Chronicle*, series 3, XXXVI, 175, with figure.

Pinus Nelsoni. By GEORGE R. SHAW. *The Gardener's Chronicle*, series 3, XXXVII, 306, with figure.

I take this opportunity again to express my thanks to the Trustees of the Massachusetts Society for the Promotion of Agriculture for their annual grant of \$2,500 for the maintenance of the Arboretum, which they have now continued for another three years, and to the members of the Visiting Committee for their advice and assistance.

C. S. SARGENT, *Director*.

THE CHEMICAL LABORATORY.

TO THE PRESIDENT OF THE UNIVERSITY: —

SIR, — Owing to the indisposition of Professor Jackson, the course in descriptive chemistry (Chemistry 1) was given last year by Professor Sanger. The full course in industrial chemistry (Chemistry 11) was conducted by Dr. Pringsheim, who also met once a week a small number of students for the purpose of reading original German publications. Owing to the large amount of ground to be covered in lectures and laboratory work in organic chemistry (Chemistry 5), it was thought best to divide the course into two parts. Dr. Torrey therefore gave the lectures under the head of Chemistry 5 and offered a new half-course, extending throughout the year, Chemistry 5a, devoted to laboratory work. Course 5a is open only to those who take Course 5. A half-course in general biological chemistry was established and conducted by Dr. Lawrence J. Henderson (A.B. 1898, M.D. 1902). Dr. Lewis was granted leave of absence for two years, and the course in advanced physical chemistry (Chemistry 14), conducted by him for the last two years, was not given. The half-courses in electro-chemistry (Chemistry 7 and 13), formerly in charge of Dr. Lewis, were given by Dr. R. C. Wells (A.B. 1901, Ph.D. 1904).

The number of students in the several laboratory courses during the year, and in June, 1904, were as follows: —

	October, 1904.	January 1st, 1905.	June 1st, 1905.	June 1st, 1904.
Chemistry 1	382	367	334	334
Chemistry 3	139	131	117	112
Chemistry 4	35	34	31	37
Chemistry 5 . . . . .	..	..	..	37
Chemistry 5a	40	39	34	..
Chemistry 6	18	16	17	22
Chemistry 9	28	27	..	..
Chemistry 10 . . . . .	..	..	20	14
Chemistry 12	6	6	..	..
Chemistry 13 . . . . .	..	..	4	6
Chemistry 20a . . . . .	..	..	..	1
Chemistry 20b	4	4	4	6
Chemistry 20c	3	3	3	3
Chemistry 20d	6	6	7	4
Chemistry 20e	1	1	1	3
Chemistry 20f	5	5	4	2
Chemistry 20g . . . . .	..	..	..	2
	<u>667</u>	<u>639</u>	<u>576</u>	<u>583</u>

The number of students in the courses in which no laboratory work is given were as follows:—

	October, 1904.	January 1st, 1905.	June 1st, 1905.	June 1st, 1904.
Chemistry 2	91	88	..	..
Chemistry 5	48	43	42	..
Chemistry 7 . . . . .	..	..	18	15
Chemistry 8 . . . . .	..	..	63	43
Chemistry 11	37	35	31	12
Chemistry 14 . . . . .	..	..	..	4
Chemistry 15 . . . . .	..	..	84	..
Total number of students under instruction	838	805	759	657

The general increase in the number of laboratory and lecture courses since 1900-01 has brought a proportional increase in the number of advanced and research students. The prospect of having still larger numbers of these students in 1905-06 made it necessary to provide accommodations which could not be found in Boylston Hall, which, as emphasized in previous reports of the Directors, had been taxed to the utmost ingenuity. Accordingly, during the past summer, this need of space has been temporarily met by fitting up, at considerable expense, the basement and lower room of Dane Hall, west, formerly occupied by the Coöperative Society, as quarters for the course in qualitative analysis (Chemistry 3), and by adapting the space thus released in Boylston Hall to the needs of advanced and research students. We shall be able to provide sufficient working space for elementary students for a few years yet; advanced students will find room, though inadequate, but it is doubtful if we can offer proper accommodation for research men, at the present rate of increase, unless at the expense of other students or by exchanging additional space in Dane Hall.

The library and reading-room of the Department has proved during the last year, as expected, to be a valuable help to research students and a stimulus to others. We continue to receive gifts of books and journals from Professor Wolcott Gibbs, and a permanent fund for books has been given. This fund, which is known as the Book Fund of the Class of 1881, is given by that class as part of their memorial subscription to the University, on the occasion of their twenty-fifth anniversary, and amounts to about \$3,200. The income is to be expended for the purchase of books under the direction of the Director of the Chemical Laboratory.

The following investigations were carried on during the year:—

Professor C. L. Jackson, with Mr. F. W. Russe, continued the study of tetrabromorthoquinone; the quinhydrone was investigated,

and progress was made in the work on that perplexing subject, the acetic acid compounds. With Mr. R. D. MacLaurin the tetrachlororthoquinone was studied which acts in a much more complex way than the bromine compound. Seven products of its action with methyl alcohol have been identified. With Mr. M. C. Boswell the action of chloride of iodine on pyrocatechine was taken up; this led to complex products containing both iodine and chlorine. The study of the bromine addition compounds of dimethylaniline with Mr. Latham Clarke was completed, making the series of these compounds almost complete. Also, the nature of rosocyanine was determined, and the formula of curcumine essentially established.

Professor Richards finished, with the help of Dr. R. C. Wells, the investigation on the equivalent weights of sodium and chlorine in common salt, proving without doubt that Stas's silver was impure and that the usually accepted atomic weights of both sodium and chlorine were in error. Further, they analyzed pure sodic bromide, obtaining results confirming those with the chloride. They found also the transition temperature of crystallized sodic bromide, and showed that it is suitable for fixing a point (50.675°) on the thermometric scale. With the assistance of Dr. W. N. Stull, Professor Richards studied, by their new methods, the compressibilities of the elements and a number of simple compounds. The results all verify predictions based upon the theory of compressible atoms. The compressibilities of the elements are periodic, like their other properties. With Mr. G. S. Forbes, Professor Richards studied the electromotive effects of amalgams; and with Messrs. G. E. Behr, Jr., and R. W. Kent, the electromotive effects of metals under various conditions, aiming at great precision. With Mr. B. S. Lacy he investigated electrostenolysis, and certain anomalies of the calomel electrode. He has devised a new method for avoiding the calorimetric cooling correction, which has been carefully tested by Dr. L. J. Henderson, working with the Berthelot bomb. With the help of Mr. R. F. Jackson he has investigated specific heats, hoping to obtain more accurate data to serve as a basis for thermodynamic reasoning, and with the help of Mr. F. G. Jackson tested a new method for verifying thermometers below the freezing point. Professor Richards himself has been engaged not only in atomic weight investigations, but also in many other related experiments suggested by the work described above. All these investigations have been greatly assisted by a third annual grant of \$2,500 from the Carnegie Institution of Washington.

Dr. Torrey completed his work on the action of ethylene dibromide on *para* nitroso dimethylaniline. With Mr. W. H. Hunter he continued the study of derivatives obtained from bromanil and chloranil with potassic iodide in acetone solution, and with Mr. H. B. Kipper the investigation of nitrooxybenzophenones. With Mr. A. H. Pierce the study of the action of substituted hydrazines on various quinones was begun.

Dr. Baxter completed the investigation upon the atomic weight of iodine begun during the previous year. The final average from five ratios was 126.985 ($Ag = 107.930$) for the value of this constant. He also began a determination of the atomic weight of bromine. Under Dr. Baxter's direction the following researches were carried on: Mr. M. A. Hines completed a determination of the atomic weight of manganese by the analysis of manganous bromide, and obtained as a final result the value 54.953. Mr. Hines also finished the analysis of cadmium chloride, which was begun the previous year. The value for the atomic weight of cadmium thus obtained was 112.47. This result was exactly confirmed by Mr. Hines during the past summer by the analysis of cadmium bromide, — an investigation which was undertaken and partially completed by Mr. H. L. Frevert during the college year. In addition to this work Mr. Frevert studied the determination of iron by permanganate in the presence of hydrochloric acid. Mr. R. C. Griffin perfected the method of determining phosphoric acid by means of ammonium phosphomolybdate, and investigated carefully the composition of the latter substance. He also began a study of the rare earths. Mr. C. H. Hickey devised a new method for preparing pure nitrogen, studied the determination of ammonia by distillation and also the titration of carbonates in the presence of phenolphthalein, and determined the vapor tension of iodine at ordinary temperatures. Mr. R. A. Hubbard showed the occlusion of soluble oxalates by calcic oxalate and the solubility of ferric hydroxide in ammonia to be negligible for analytical purposes. He also investigated the cathodic solution of platinum during the electrolysis of cyanides, and determined the solubility of potassium permanganate at ordinary temperatures. Mr. J. E. Zanetti studied the determination of oxalic acid by permanganate in the presence of hydrochloric acid. During the summer session Mr. O. F. Black investigated further the titration of carbonates with phenolphthalein, and Mr. E. Mueller determined the refractive index of potassium chloride solutions of various concentrations. Dr. Baxter received a further grant of \$1,000 from the Carnegie Institution of Washington for the continuance of atomic weight researches.

The following papers were published during the year:—

1. On certain Sulphamido Derivatives of Furfurane. By H. B. HILL and J. P. SYLVESTER. *Am. Chem. Journ.*, XXXII, 185.
2. On the Action of Potassic Nitrite on Mucobromic Ester. By H. B. HILL and O. F. BLACK. *Am. Chem. Journ.*, XXXII, 228.
3. On the Optically Active Isomers of the β -Dihydrofurfurane- α -Dicarboxylic Acid. By H. B. HILL and F. W. RUSSE. *Am. Chem. Journ.*, XXXIII, 372.
4. On certain Derivatives of the 1-, 3-, 5-Triiod-, 2-, 4-Dinitrobenzol. By C. LORING JACKSON and J. F. LANGMAID. *Am. Chem. Journ.*, XXXII, 297.
5. Ueber das Verhalten des Tetrabrom-o-benzochinons gegen Ketone und Aldehyde. Von C. LORING JACKSON und F. W. RUSSE. *Ber. d. deutsch. chem. Gesell.*, XXXVIII, 419.
6. Note on the Preparation of certain Amines. By LATHAM CLARKE. *Am. Chem. Journ.*, XXXIII, 496.
7. A Revision of the Atomic Weight of Strontium. Second Paper, The Analysis of Strontic Chloride. By THEODORE W. RICHARDS. *Proc. Am. Acad.*, XL, 603.
8. Note on the Efficiency of Centrifugal Purification. By THEODORE W. RICHARDS. *Journ. Am. Chem. Soc.*, XXVII, 104.
9. Electrostenolysis and Faraday's Law. By THEODORE W. RICHARDS and BURRITT S. LACY. *Journ. Am. Chem. Soc.*, XXVII, 232.
10. A Revision of the Atomic Weights of Sodium and Chlorine. By THEODORE W. RICHARDS and ROGER CLARK WELLS. *Journ. Am. Chem. Soc.*, XXVII, 459 to 529; *Zeit. für anorg. Chem.*, XLVI, 56; *Carnegie Institution of Washington*, Pub. 28.
11. New Methods of Determining the Specific Heat and the Reaction-Heat of Liquids. By THEODORE W. RICHARDS and ARTHUR B. LAMB. *Proc. Am. Acad.*, XL, 659.
12. The Elimination of Thermometric Lag and Accidental Loss of Heat in Calorimetry. By THEODORE W. RICHARDS, LAWRENCE J. HENDERSON, and GEORGE S. FORBES. *Proc. Am. Acad.*, XLI, 3; *Zeit. für phys. Chem.*, LII, 5.
13. Thermal Expansion of Hydrogen and Carbon Dioxide under Constant Pressure. By THEODORE W. RICHARDS and KENNETH L. MARK. *Proc. Am. Acad.*, XLI, 117.
14. On the Dissociation of Phenoquinone and Quinhydrone. By HENRY A. TORREY and H. HARDENBERGH. *Am. Chem. Journ.*, XXXIII, 167.
15. Ueber die Einwirkung von Jodkalium auf Bromanil und Chloranil. Von HENRY A. TORREY und W. H. HUNTER. *Ber. d. deutsch. chem. Gesell.*, XXXVIII, 555.
16. A Revision of the Atomic Weight of Iodine. Second Paper. By G. P. BAXTER. *Proc. Am. Acad.*, XLI, 73; also *Journ. Am. Chem. Soc.*, XXVII, 876, and *Zeit. für anorg. Chem.*, XLVI, 36.

17. A Revision of the Atomic Weight of Cadmium. By G. P. BAXTER and M. A. HINES. *Journ. Am. Chem. Soc.*, XXVII, 222.
18. Pure Nitrogen from Nitrous and Nitric Oxides and Ammonia. By G. P. BAXTER and C. H. HICKEY. *Am. Chem. Journ.*, XXXIII, 300.
19. The Determination of Oxalic Acid by Permanganate in the Presence of Hydrochloric Acid. By G. P. BAXTER and J. E. ZANETTI. *Am. Chem. Journ.*, XXXIII, 500.
20. The Determination of Ferrous Iron by Permanganate in the Presence of Hydrochloric Acid. By G. P. BAXTER and H. L. FREVERT. *Am. Chem. Journ.*, XXXIV, 109.
21. Autocatalytic Decomposition of Silver Oxide. By GILBERT N. LEWIS. *Proc. Am. Acad.*, XL, 719; *Zeit. für phys. Chem.*, LII, 310.
22. Hydratation in Lösung. By GILBERT N. LEWIS. *Zeit. für phys. Chem.*, LII, 224.

The crowded condition of Boylston Hall, as each year passes without substantial relief, becomes more and more pressing. We cannot rely any longer on alterations in Boylston Hall. The use of Dane Hall, as noted above, may answer as a temporary provision, but the building is not suitable for research students owing to its situation, while to use it for any students is only to increase the irrational division of equipment and of administration. Even if this were done, and the space thus vacated in Boylston Hall adapted to other purposes, it would only be at great expense and inconvenience. The problem is a serious one and threatens the growth and usefulness of the Division. There is no adequate solution except the construction of a new, properly equipped and endowed laboratory.

CHARLES R. SANGER, *Director*.

THE JEFFERSON PHYSICAL LABORATORY.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — The problem of conducting successfully large divisions in a physical laboratory has been largely solved in the Jefferson Physical Laboratory by great attention to improved methods and appliances, and above all by the employment of instructors who are also investigators, and who bring to their work an enthusiasm rarely found in assistants who merely teach what is found in text-books.

The variety of subjects which have engaged the attention of the members of the Department and the Graduate Students, a variety which is illustrated by the list of researches given below, is very significant; and the Director believes that this variety is unique in university physical laboratories both in Europe and America. In most physical laboratories the work of research is dominated by the interests of the director in some one branch of investigation, or is determined by the skill of some assistant as a glass blower or worker with tools. Liberality in intellectual directions is certainly highly desirable in a university laboratory, and is an evidence of a good mechanical equipment which enables graduate students to work successfully in fields which especially interest them. This variety of directions of research during the past year in the Laboratory embraces the subjects of mathematical physics, wireless telegraphy, spectrum analysis, luminescence, and thermodynamics.

There is no subject in physical science which may not, in time, have an important bearing upon the welfare of humanity; for we exist by a proper observance of the laws of physics. It is interesting, therefore, to note, even in a laboratory where the work has not an immediate commercial bearing, the influence of theoretical study upon practical applications of science. The work of Professor B. O. Peirce in magnetism is a good illustration of this. A certain type of measuring instrument, used in all physical laboratories and in many commercial applications of electricity, has hitherto been made of steel, and has cost from forty to fifty dollars. Professor Peirce has shown that cast iron, properly tempered, can be used instead of steel, thus reducing the cost to perhaps five dollars per instrument, or even less, and securing also a medium practically uninfluenced by changes of temperature. Dr. G. W. Pierce has shown in his

researches on the possibility of Tuning Wireless Telegraph Circuits, that the usual earth connections employed in such circuits can be supplanted, often to great advantage, by conductors parallel to the ground and insulated from it. Professor Sabine has extended his work in Acoustics so as to embrace the study of the absorption of sound of various wave lengths, and his work enables him to predict the acoustical properties of an auditorium from a mere inspection of its plan. The confidence felt by the physicist that all work in the accurate observation of physical phenomena will, in time, be of use to humanity is one of the strongest incentives to continue in the arduous path of physical research. The work of Professor Hall in Thermodynamics is of especial interest when we consider the fundamental importance of this branch of physical science. The growing use of ultra violet rays in therapeutics, strongly illustrated by the employment of microscopes provided with quartz and fluorspar lenses which enables the observer to dispense with staining gelatine in the study of bacilli, indicates the importance of Dr. Lyman's researches on short waves of light. The studies of Dr. Morse in luminescence compel us to take new bearings in this highly important subject which relates to the production of light by an apparently small amount of energy.

The following papers have been published during the past year:—

1. Spectra from the Wehnelt Interrupter. 1. By HARRY W. MORSE. *Astrophys. Journ.*, Vol. 19, No. 3.
2. The Van der Waals *a* in Alcohol and Ether. By EDWIN H. HALL. *Boltzmann Festschrift*, 1904.
3. Preliminary Measurements of the Short Wave Lengths discovered by Schumann. By THEODORE LYMAN. *Astrophys. Journ.*, Vol. 19, No. 4.
4. Some Elementary Theorems Concerning the Steady Flow of Electricity in Solid Conductors. By B. O. PEIRCE. *Annals of Mathematics*, Series 2, Vol. 5, No. 4.
5. Experiments on Resonance in Wireless Telegraph Circuits. Part 1. By G. W. PIERCE. *Phys. Rev.*, Vol. 19, No. 3.
6. Tentative Theory of Thermo-Electric Action. By EDWIN H. HALL. *Proc. A. A. A. S.*, Vol. 54.
7. A Manometer Device for Air Thermometers. By HAROLD EDWARDS. *Proc. Am. Acad.*, Vol. 40, No. 13.
8. Notes on the Resistance Measurements in Platinum Thermometry. By HAROLD EDWARDS. *Proc. Am. Acad.*, Vol. 40, No. 13.
9. Spectra of Weak Luminescences. By HARRY W. MORSE. *Astrophys. Journ.*, Vol. 21, No. 2.
10. Viscosity of Air. By J. L. HOGG. *Proc. Am. Acad.*, Vol. 40, No. 18.

11. A P Q Plane for Thermodynamic Cyclic Analysis. By HARVEY N. DAVIS. *Proc. Am. Acad.*, Vol. 40, No. 19.
12. Experiments on Resonance in Wireless Telegraph Circuits. By GEORGE W. PIERCE. *Phys. Rev.*, Vol. 20, No. 4.
13. Spectra from the Wehnelt Interrupter. 2. By HARRY W. MORSE. *Astrophys. Journ.*, Vol. 21, No. 3.
14. Measurements of Various Thermal and Electrical Effects, especially the Thomson Effect in Soft Iron. By EDWIN H. HALL, Messrs. CHURCHILL, CAMPBELL, and SERVISS. *Proc. Am. Acad.*, Vol. 41, No. 2.
15. Side Discharges of Electricity. By JOHN TROWBRIDGE. *Am. Journ. Sci.*, Vol. 20, July, 1905.

The most important step which should be taken by the University for the continued growth of the Physical Laboratory is a large increase in its endowment. There is no physical laboratory in America which has a million-dollar endowment; yet this amount of endowment cannot be considered excessive when one considers how fundamental in science is the study of Mechanics, Light, Heat, Electricity, and Magnetism.

JOHN TROWBRIDGE, *Director*.

THE DIVISION OF ENGINEERING.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR, — I respectfully submit the following report on the Division of Engineering for 1904–05.

The work of the Division has been very satisfactory so far as the limitations fixed by the resources of the University have permitted.

The following table shows the total enrolments in engineering courses and half-courses for the past five years, and the percentage of enrolments of students not registered in the Scientific School:—

	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.
Total enrolments in engineering courses	1954	2014	2095	2274	2263
Number of Scientific School students .	1635	1633	1582	1654	1670
Number of students not registered in Scientific School	319	381	513	620	593
Percentage of Academic students . .	16.3	18.9	24.5	27.3	26.2

It will thus be seen that about one-fourth of the instruction offered by the Engineering Division is given to students who are not registered in the Scientific School.

The following table indicates the relative proportions of students in engineering taking their degrees with distinction in 1904 as compared with the students graduating in Harvard College:—

	College Degrees.	Engineering Degrees.
Without distinction	303	19
Cum laude	76	8
Magna cum laude	39	1
Summa cum laude	4	..
	<u>119</u>	<u>9</u>
Total	422	28
Percentage with distinction	28.2	32.2

By this it is shown that 32 per cent. of the students enrolled graduated with distinction in engineering, and 28 per cent. in the College. This is in spite of the fact that the work in engineering is prescribed and covers twenty and one-half courses, whereas the work in the College is elective and covers seventeen courses.

The Division has endeavored to give students during their three upper years as much instruction in professional engineering as possible, treating the first, or Freshman, year as merely preparatory. To this end, elementary mechanics has been placed in the second

year parallel to the course in calculus. The development of this course by Professors Johnson and Huntington has been particularly interesting and effective. It promises to solve a very difficult problem in connection with the preparation of students for really advanced work in their third year. The chief obstacle in the way of making the course efficient has been the large number of students without adequate assistance in the class-room. Much has been accomplished by Professor Johnson in giving two consecutive hours to the instruction instead of the customary one hour of lectures or recitation. There are thus three periods of two hours each during the week. The first part of each period is allotted to lectures which may be from half an hour to one hour in length; the second part is spent in a large draughting room over problem work under the eye of the instructor. This arrangement of hours has been adapted with great profit to several other courses. If the tabular view of studies under the Faculty of Arts and Sciences permitted its extension to all the courses in engineering, the effectiveness of instruction could be greatly improved.

Attention has already been called in previous reports to the insufficiency of the teaching staff for the work demanded in the class-rooms and laboratories. The time of professors is too much occupied with recitations and routine instruction to permit serious research, perhaps the most important occupation of a first-rate professional school. It hardly requires argument to demonstrate the effect of good laboratory work as a stimulus to students of a profession involving the use of machinery and materials. Good students should be encouraged to spend a large amount of time, if possible, after graduation, in the laboratories under the direction of professors with the leisure to give to investigation. It is just along this line that a great development must take place if the University is to place engineering on the high plane now occupied by law and medicine. At present, the several laboratories have only a respectable start. Electrical engineering is fairly well equipped for elementary instruction, but mechanical engineering still suffers from a lack of proper machinery, and civil engineering would gain much by a considerable addition to the laboratories for hydraulics and for testing materials. The laboratory for mechanical engineering requires a much greater diversity of machinery and is naturally slower of development.

At present, the instruction in craft work is given to Harvard students in the Cambridge Manual Training School, where the machinery must necessarily remain of a somewhat simple type, adapted to the

use of boys under eighteen years of age. The time must soon come when the University should have its own shops, fitted with the most modern machinery, where students and professors could make their own apparatus, and where students could learn the elements of various trades. A great field lies before the Division when sufficient money is available for the extension of all its laboratories, including the workshops.

In view of the fact that large means may be available for engineering in a few years, a brief reference to the general subject of organization may not seem out of place. The combination of professional with undergraduate work is not calculated to develop the spirit necessary to make a great professional school. The Law and Medical Schools have long since emancipated themselves from academic control, if they were ever subject to such control. Their courses of studies are directed entirely by professional men freed from the complication of undergraduate tabular views and from an elective system devised for the general education of young men. This kind of a separation seems absolutely necessary if engineering is to reach its proper position in the University, and the time would seem ripe for it. Whether the professional school in which the engineering degrees may be given shall be a graduate department in the sense of requiring an academic degree for admission, or not, may be left to the future. Under any circumstances, the course of studies should be of graduate grade, excepting, perhaps, in those subjects which form a natural link between undergraduate work and the practical applications of science to engineering construction, such, for instance, as calculus.

There are certain difficulties in the way of accepting a degree as conclusive evidence of a student's fitness to begin the study of applied science. In Harvard, the Bachelor's degree may have been obtained without any advanced mathematics, so that a graduate may be no better fitted for beginning mechanics, the foundation of engineering, than the graduate of a good high school, except in point of maturity and breadth of culture. This would seem to make necessary certain definite requirements and an examination for admission independent of the degree. Engineering occupies a position differing somewhat from that occupied by law and medicine in the fact that it is an application of mathematics, physics, and chemistry, usually studied in an undergraduate department, to commercial and practical affairs. Where the line between the preparatory and the advanced, or graduate, studies should be drawn is largely a matter of opinion. Up to the present time, most schools

of engineering include all the mathematics above geometry and trigonometry in their schedule of studies for the degree. The nature of the requirements for admission to the course of studies, and the subsequent course, could safely be left to be determined by a professional board.

In extending the laboratories it would always be well to provide for the admission of special students qualified to pursue investigations of a scientific character, and to give them every facility for their work. A large following of such students would add much to the product of the laboratories.

The instruction at the Summer Camp on Squam Lake was successful from all points of view. The two lots of land added to the estate by gift of Mr. J. J. Higginson and Mr. J. J. Storrow increased the efficiency of the surveying courses by bringing the field of all operations within easy reach of headquarters. A new building was also erected for a draughting and examination room. A sewage disposal plant was constructed; an acetylene lighting plant was installed for the draughting room and administration buildings; and a water supply from a large spring was brought to the buildings in pipes.

The total number of students in attendance at the Camp was one hundred and fifty, the same as in the preceding year. The above-mentioned improvements made it possible to carry on instruction with much greater convenience and effectiveness than heretofore. A course in history and a course in economics were announced to be given at the Camp, but the number of students applying for these courses was not sufficient to render them successful. An accurate map of the Squam Lake district, obtained from triangulation, was prepared and published, the work being wholly carried out by students.

During the year Professor C. A. Adams was absent on leave, and Mr. G. A. Anderegg acted efficiently as a substitute. Mr. J. A. Moyer's resignation in the middle of the year was a serious loss to the Division. His industry and interest in his work had been of great value to the students during the entire period of his connection with the University.

The following papers were published during the year:—

The Induction Motor. By C. A. ADAMS. *Harvard Engineering Journal*, November, 1904, and April, 1905.

A Study in the Design of Induction Motors. By C. A. ADAMS. *American Institute of Electrical Engineers*, June, 1905.

Reactance E. M. F. and the Design of Commutating Machines. By C. A. ADAMS. *Electrical World and Engineer*, August 26, 1905.

- Map of the Squam Lakes, N. H. By H. J. HUGHES. 1905.
- A Set of Postulates for Real Algebra. By E. V. HUNTINGTON. *Transactions of the American Mathematical Society*, Vol. 6, January, 1905.
- Note on the Definitions of Abstract Groups and Fields by Sets of Independent Postulates. By E. V. HUNTINGTON. *Transactions of the American Mathematical Society*, Vol. 6, April, 1905.
- A Set of Postulates for Ordinary Complex Algebra. By E. V. HUNTINGTON. *Transactions of the American Mathematical Society*, Vol. 6, April, 1905.
- The Continuum as a Type of Order: An Exposition of the Modern Theory. With an Appendix on the Transfinite Numbers. By E. V. HUNTINGTON. *The Annals of Mathematics*, Vol. 6, July, 1905; Vol. 7, October, 1905. Also published as a separate pamphlet by the Publication Office of Harvard University.
- New Data on the Weight of a Crowd of People. By LEWIS J. JOHNSON. Boston Society of Civil Engineers, December 21, 1904.
- Discussion of C. C. Schneider's paper on "Structural Design of Buildings." By LEWIS J. JOHNSON. *Transactions of American Society of Civil Engineers*, Vol. LIV, 1905.
- Signs for Compressive and Tensile Stress. By LEWIS J. JOHNSON. *Engineering News*, Vol. LIII, 1905.
- Mechanism. By F. L. KENNEDY. 1905.
- Mechanical Drawing. By F. L. KENNEDY and A. E. NORTON. 1905.
- The "Balancer" as Employed in Multiple-Voltage Direct-Current Systems. By A. E. KENNELLY. *Harvard Engineering Journal*, January, 1905.
- On Direct-Current Balancers. By A. E. KENNELLY and S. E. WHITING. *Electrical World and Engineer*, January 7, 1905.
- A Working Diagram of the Alternating-Current Synchronous Motor. By A. E. KENNELLY. *Electrical World and Engineer*, January 28, 1905.
- The Metric System of Weights and Measures. By A. E. KENNELLY. *Popular Science Monthly*, February, 1905.
- Some Tests of Tantalum Lamps. By A. E. KENNELLY and S. E. WHITING. *Electrical World and Engineer*, March 25, 1905.
- A Diagram of the Circuits of the Dynamotor. By A. E. KENNELLY and S. E. WHITING. *Electrical World and Engineer*, June 3, 1905.
- On a Method of Potential Regulation Based on the Different Resistance Behavior of Carbon and Tantalum Lamps. By A. E. KENNELLY and S. E. WHITING. *Electrical World and Engineer*, July 1, 1905.
- Transactions of the International Electrical Congress of St. Louis, 1904; Vols. I, II, and III. Edited by A. E. KENNELLY, published April, 1905.
- Gas and Oil Engines: An Introductory Treatise. By L. S. MARKS. Armour Institute of Technology.
- Test of the Power Plant of the Cambridge Electric Light Company. By L. S. MARKS. *Harvard Engineering Journal*, January, 1905.
- Laboratory Notes of an Elementary Course in Electrical Engineering. Parts I, II, and III. By S. E. WHITING. 1905.

I. N. HOLLIS.

THE PSYCHOLOGICAL LABORATORY.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR:—The work in the Psychological Laboratory during the last year was largely influenced by the expectation of the better equipped and more suitable laboratory in Emerson Hall. Much of the attention of the laboratory staff was indeed devoted to the preparation of the new Institute. As the generosity of an anonymous friend has made it possible to provide the nearly completed laboratory with the best instruments in the field of experimental psychology, and as such equipment needs the work of the mechanics through a long period beforehand, much activity was needed for securing in time the complete apparatus with which the Emerson Hall laboratory will begin its work. We had to select the best new models of kymographs, tachistoscopes, chronoscopes, photometers, sonometers, stereopticons, etc. In the same way the manifold problems of the arrangement of the laboratory rooms and their electrical and mechanical appliances had to be worked out. Professor E. B. Holt and Dr. R. M. Yerkes succeeded in devising methods by which each room will attain its highest usefulness, while at the same time almost all of the twenty-five rooms are adjusted beforehand to special purposes, including the purposes of animal psychology, for which a wing of the laboratory is to be fitted up.

In spite of this anticipatory activity, the work in the old laboratory in Dane Hall went on undisturbed, and the research work was extremely productive. It can be most directly characterized by the fact that it yielded six Doctor dissertations, of which five have been accepted by the Department as completely satisfactory for the degree. These five accepted doctor-theses are the following: Mr. B. T. Baldwin examined in his experiments the influence of a multitude of starting points for the various trains of associations. His investigation, carried on in the Harvard laboratory for several years with fifteen Graduate Students as subjects, throws new light on the mutual influences of intellectual impulses and may be not only of theoretical psychological, but also of practical pedagogical, value. Mr. C. H. Johnston made a valuable contribution to the psychophysical analysis of feelings. Starting with the old problem, whether more than one feeling at a time can become developed in

consciousness, he studied the effect of combining several stimuli of various feeling tone, after carefully training his subjects in the observation of the feeling symptoms. His painstaking experiments yielded plentiful results, which led to an original theory of feelings and their bodily expression. Mr. J. E. Rouse completed his thesis on the psychology of pigeons, which had engaged his full time for a number of years. His experiments refer partly to the expression of emotions in birds under the various influences of surroundings, with special reference to the subtle changes of respiration, partly to the phenomena of imitation and memory in such animals. The brilliant work of Miss E. H. Rowland dealt with the aesthetics of repetition in the visual field. The experiments which analyzed the pleasure produced by variations of repetition under most different conditions were done with constant reference to the development of architecture, and the practical application of the psychological laws of repetition to the columns, arches, etc., in works of art. Mr. C. L. Vaughan concentrated his work on the motor power of impressions with special reference to their complexity, studying the inhibitory powers and the energy of reaction under the influence of optical impressions of various complexities. All these investigations will appear in the second volume of the *Harvard Psychological Studies*, with the exception of a part of Dr. Rouse's thesis, which has appeared in the *Journal of Comparative Neurology and Psychology*. It may be emphasized that every one of these five papers stands in relation to the work done in this laboratory in earlier years, and is to some extent a continuation of it. The laboratory secures in this way a certain unity of purpose, which is more and more recognized in the critical reviews dealing with the laboratory publications.

Besides these accepted Doctor dissertations, the following more important researches may be mentioned. Mr. L. E. Emerson completed his investigation into the nature of melody by studying the aesthetic effects of intervals between tones which stand in no musical relation, using tones different by four vibrations only. Miss F. H. Rousmaniere began pioneer studies in the field of logical feelings. Her experiments referred to the feeling of certainty and the relation of its various shades to the objective correctness of judgment. Mr. F. M. Surrey completed his examination of the influence of tension and strain on the fusion and misplacement of tactual sensations. Dr. F. M. Urban, who started with research on the influence of feeling on the pulse, was led by his experiments to a general study of the pulse curve, and finally to a new theory of blood-vessel activity and its relation to the psychical influence. Mr. K. T.

Waugh examined the influence of voluntary movements on the products of visual imagination and of visual memory. Dr. E. B. Holt, who published a number of theoretical papers during the year, continued his experiments on visual anesthesia, with special reference to the phenomena of dizziness. Dr. R. M. Yerkes, who published a number of contributions to animal psychology in the *Journal of Comparative Neurology and Psychology*, completed his important investigations concerning the inhibition and reinforcement of reaction in the frog. Dr. Yerkes and Dr. Urban together were further engaged in an experimental investigation of various influences on the estimation of time. As a very large number of subjects was needed for this research, the work partly transcended the limits of the laboratory and was carried on in various class-rooms, and with the coöperation of teachers of psychology in other colleges. Another investigation, which was essentially made outside of the laboratory, mostly in school-rooms, but which got its experimental technique through our laboratory, was that of Mr. H. A. Miller, who made comparative tests on various groups of children, and whose experimental work has also been accepted as a thesis for the Doctor's degree. Several of these investigations will appear also in the *Harvard Psychological Studies*.

The various courses related to experimental psychology have been carried on in the same way as in foregoing years. A change has been tried only in the Summer School courses of Dr. Yerkes, which covered a larger ground this time than ever before.

HUGO MÜNSTERBERG,
Professor of Psychology.

THE OBSERVATORY.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—The present condition of the Observatory is that of an institution with superabundant opportunities for additional investigations, but with its income fully expended on necessary work, much of which is routine. A slight increase in income would permit work to be greatly extended, while a slight decrease would cause a great reduction in the scientific output. Not only are the expenses large in an institution of this size, but much time and money are required for the care of the collection of 182,277 photographs, a collection that is unique, and gives the only existing history of the stellar universe for the past twenty years. The case is similar to that of almost any successful industrial undertaking, a shop, a hotel, a theatre, a railway, or a steamship. If a steamship line is just paying its expenses, a moderate increase in the patronage will greatly increase the profits, while the expenses will be nearly as great if the boats are run without a single passenger.

The Anonymous Gift of \$20,000 in 1902, which is now completely expended, illustrates the return which may be expected from even a moderate addition to our resources. By means of this gift, a three-story wing was added to the building containing the astronomical photographs. This wing is thirty feet square, of brick, and fireproof. The main story alone will store conveniently 91,000 photographs, and provide room for examining and studying them. The great Common reflector of sixty inches aperture has been purchased, mounted, and housed, two twenty-four inch reflectors have been purchased, and one of them has been mounted.

The grant of \$2,500, by the Carnegie Institution in 1908, illustrates the immediate return to be expected from a small additional expenditure. A corps of ten computers was employed, organized, and disbanded in a single year, and yet the vast amount of material described in Circular 71 was accumulated. Had the work been continued a second year, one of the results attained by it would have been the discovery of the fourteen hundred variable stars described below.

For these reasons, it is believed that the sum of \$50,000 could be expended here to great advantage during the next few years, with results quite out of proportion to its amount.

The urgent needs of this Observatory render it none the less important to maintain the policy of aiding international astronomical research. There must be persons who desire to aid Astronomy who would like to do so with the assistance of the most skilful experts in all parts of the world. The only objection hitherto raised to this plan, that Harvard would acquire undue influence, could be easily and satisfactorily remedied by placing the funds under the control of other astronomers. The only essential condition is that it should be administered absolutely fairly, and expended so as to secure the greatest possible scientific return. The broad scheme of Kapteyn, for the study of the faint stars, is an excellent example of the results to be expected from a moderate expenditure. The small fund at present available here for international research has already led to the formation of the Western Association of Astronomical Photography, and to other uses which are none the less efficient though it seems best that their exact application should not be made public. The efficiency has been greatly increased by the fact that the grants can be made at once, and without burdensome restrictions.

OBSERVATORY INSTRUMENTS.

East Equatorial.—Nearly all of the observations with this instrument have been made by Professor O. C. Wendell, and have been of the same general character as in previous years. Over thirteen thousand photometric light comparisons have been made, principally with the polarizing photometer with achromatic prisms. A large part of the measures relate to stars of the Algol type, and serve to determine their light curves and times of minima. The observation of many stars of doubtful variability has also been continued. Measures have been made of four asteroids, to determine the variation, if any, in their light. From 1580 measures of Eunomia (15), it appears that this asteroid varies by about half a magnitude, in a period of $3^h 24^m.5$. With a second photometer, adapted to the measurement of adjacent stars, measures have been made of α Ceti and of several double stars. Seventeen eclipses of Jupiter's satellites have been observed photometrically, making 785 in all. 448 settings have also been made to determine the brightness of the four principal satellites of Jupiter.

Meridian Circle.—The determination of the final constants for the reduction of the zone observed between $-9^\circ 50'$ and $-14^\circ 10'$

has been continued. The investigation of the residuals in declination of the fundamental stars, mentioned in the last report, has been completed, and the required formulae of correction have been determined. No further investigation of this kind is at present contemplated. The reduction of the fundamental stars is now complete for the years 1888 and 1889, about half completed for 1890, and about two thirds completed for 1896, 1897, and 1898. It has still to be made for 1891 and 1892. When the final constants for all the zones have been prepared, it is intended to construct tables for the separate zones, by means of which the provisional places of the zone stars may be converted into final places. Miss S. C. Bond has continued the reduction of the observations made by the late Professor Rogers during the years 1879 to 1883.

12-inch Meridian Photometer. — With this instrument 81,284 settings have been made by the Director, on 148 nights. In all, 511,276 settings have been made in seven years with this instrument. The measurement of all the Durchmusterung stars in zones 10' wide, at intervals of 5°, has been completed, from the North Pole to declination — 20°. A large part of the time, during the last year, has been devoted to measuring sequences of comparison stars, from the eighth to the thirteenth magnitude, near variable stars of long period, and to measuring the absolute magnitudes of stars used in the differential work in progress here. The total number of settings with the 2-inch Meridian Photometer is 94,476; with the 4-inch, 1,085,284.

HENRY DRAPER MEMORIAL.

The number of photographs taken with the 11-inch Draper Telescope was 1,001, making 16,081 in all; with the 8-inch Draper Telescope, 1,333, making the total number 33,427. The entire number of photographs of the stars taken at Cambridge during the year is 6,161. Eighteen eclipses of Jupiter's satellites and eight occultations of stars by the Moon have been successfully photographed with the 11-inch Draper Telescope. Three of these occultations have been photographed on a plate revolving in its own plane. The apparatus is, in fact, a chronograph in which the stellar image is the pen. The nature of the disappearance, whether instantaneous or gradual, can thus be studied. The work of classifying and studying in detail the spectra of stars of about the fifth magnitude has been continued. 611 photographs have been taken, and 820 spectra, mainly fainter than those discussed in Volume XXVIII, have been classified by Miss Cannon. The most important result derived from

these plates has been the discovery, by Mrs. Fleming, of Nova Aquilae No. 2, the eighth new star found here from the study of stellar spectra. Besides this, mainly from the study of the photographs taken with the 8-inch telescopes, she has found 19 new variable stars, 2 stars of the fourth type, 2 of the fifth type, 6 in which the hydrogen lines are bright, 2 gaseous nebulae, and 7 in which the spectra are peculiar; that the variable star R Cygni is sometimes of the third, and sometimes of the fourth type, and that the hydrogen lines are bright in the spectra of the known variable stars, X Andromedae, Y Andromedae, S Arietis, X Camelopardali, R Orionis, V Camelopardali, X Aurigae, X Geminorum, V Geminorum, — Ursae Majoris, Y Draconis, R Leonis Minoris, W Leonis, T Ursae Minoris, W Coronae, W Lyrae, RW Lyrae, UX Cygni, RR Pegasi, and W Ceti. One of the new variables, — 27°623, is of the Algol type, and varies by four magnitudes, a greater range than that of any other star of this class, as yet discovered. One new variable was found by Miss Leland, one by Miss Breslin, and the Director found that the star λ Cephei has a spectrum like that of ζ Puppis.

The general plan of taking the photographs, as described in previous reports, has been maintained under the direction of Mr. King. The developer in regular use here is rodinal. It was suggested, *Annals*, Volume LIII, page 98, that better results could be obtained with hydrochinon. A careful investigation failed to confirm this result, and although ortol appeared to be slightly better than either, the difference was not sufficient to justify a change. Measures of the photographic brightness of the sky, due to electric lights, have been made at Ossipee, North Lexington, Concord, Waverley, Arlington Heights, Cambridge, and Boston Common, with results which may be expressed by the numbers 23, 33, 36, 50, 52, 100, and 242, respectively. The fact that the sky at Cambridge is three times as bright as at points only a few miles distant suggests that it may be necessary in the future to establish an auxiliary observing station for the northern stars.

BOYDEN DEPARTMENT.

On March 18, 1905, Professor Bailey returned to Cambridge, leaving the Arequipa station in charge of Mr. R. H. Frost, the senior assistant. The number of photographs taken during the year with the 13-inch Boyden Telescope is 212, making 11,093 in all; with the 8-inch Bache Telescope 2,032, making 37,036 in all. The total number of stellar photographs taken during the year is 4,136.

Measures have been made on 37 nights with the Meridian Photometer, on 52 nights with the Rumford Photometer, and on 25 nights with the double star photometer, both of the last two instruments being attached to the 13-inch Boyden Telescope. References to various portions of the work done at Arequipa will be found in other sections of this report.

BRUCE PHOTOGRAPHIC TELESCOPE.

The number of photographs taken with the Bruce Photographic Telescope is 523, of which 27 had an exposure of four hours. The total number of Bruce plates is 7,504. Miss Leavitt has continued her study of these photographs and has discovered from them 1,129 new variable stars, 909 being in the Small Magellanic Cloud, making the total number in its vicinity 966. The systematic determination of the positions, the selection of the comparison stars, measures of their positions and magnitudes, and the determination of the magnitudes of all the variables on a large number of plates has been begun. Another investigation, by Professor W. H. Pickering, has led to the discovery of a tenth satellite of Saturn, Themis, having a period of about twenty-one days. It is sometimes brighter and sometimes fainter than Phoebe, and the latter appears to be variable. Excellent measures of Phoebe have been obtained with the Lick Reflector, but no images of Themis are known to have been found elsewhere, one difficulty being that with a telescope powerful enough to photograph it, the image of Saturn is likely to have a diameter as great as that of the orbit of Themis. The minor planet Ocello (475), discovered in 1901, at the Arequipa Station, was an object of especial interest, as the eccentricity of its orbit was the greatest known, thus rendering it in this respect the connecting link between the asteroids and the periodic comets. There was danger that this object would be lost, since observations supposed to relate to it, made in 1903 at Heidelberg and in 1904 at Arequipa, proved to relate to another object. Several photographs, however, were obtained in 1905 with the Bruce Telescope which will determine its future path with certainty.

BLUE HILL METEOROLOGICAL OBSERVATORY.

The work has been carried on, as during the past twenty years, under the direction and at the expense of Mr. Rotch. Data were obtained during 17 kite-flights on the days of each month appointed for international observations in the upper air, the average of the highest altitudes obtained in each flight being 6,940 feet above sea-

level, and the maximum in any flight, 11,180 feet. The observations with *ballons-sondes* despatched from St. Louis, mentioned in the last report, were continued during the winter and summer by Messrs. Clayton and Fergusson, the cost of the latter ascensions being defrayed by a grant from the Hodgkins Fund of the Smithsonian Institution. All but five of the instruments used in the 35 ascensions were returned, one of them recording in January the extremely low temperature of -111° Fahrenheit at a height of 48,700 feet. In coöperation with the Trappes Observatory, near Paris, a joint expedition was sent last summer on a steam-yacht to the eastern Atlantic, for the purpose of exploring the atmosphere above the northeast trade-wind. Mr. Clayton, who represented the Blue Hill Observatory, executed six kite-flights on a steamer between Boston and Gibraltar and nineteen other flights on the yacht, to within nine degrees north of the equator. The existence of the return trade-wind, blowing from a general southerly direction at a considerable height, was demonstrated by the trajectories of the *ballons*. During the total solar eclipse of August 30, meteorological observations were made by Mr. Rotch at Burgos, Spain, in connection with observations obtained there in *ballons*, and near Corunna, with kites.

To protect the Observatory against the encroachment of the public, it has been enclosed by a wall and fence.

MISCELLANEOUS.

Variable Stars. — So much work on variable stars is now in progress here that it seems best to describe it in a separate section in this report. The bibliography, now being compiled by Miss Cannon, as stated in previous reports, was nearly ready for publication, when a Committee was appointed by the Astronomische Gesellschaft to undertake a similar work. This places the Observatory in an awkward position, but as the work here contains much unpublished material, it is believed that it should be published although in a more abridged form than would have been adopted but for this needless duplication. A Provisional Catalogue of 1227 variable stars was published by Miss Cannon in 1903, and two annual supplements have been published since then, with the intention of issuing a complete catalogue early in 1906. It appears from this that about 225 variables were known in 1886, when our photographic work began. Since then, about 555 variables have been discovered elsewhere, and 2,197 at this Observatory. Mainly by means of the bright hydrogen lines in their spectra, 8 novae and 197 variables have been found by Mrs. Fleming; 509 in globular clusters by

Professor Bailey, and 1,442 by Miss Leavitt, mainly in the Magellanic Clouds. In 1889, sixteen sequences were selected for circumpolar variables of long period, and the photometric magnitudes of all of the stars in them were determined. Each variable was compared with a brighter and a fainter star in its sequence, at least once a month, by Argelander's method. This work was soon after extended to 53 other variables, and the results for all, from 1899 to 1902, were published in the *Annals*, Volume XXXVII. This has been greatly extended during the last year by Mr. Leon Campbell, so that the working list now includes 309 variables. He has made 2,171 observations of these objects with a 5-inch telescope and 223 with the 24-inch Reflector. Seven Algol variables and fourteen asteroids have also been observed. Miss Cannon has made 1,290 observations with the 6-inch West Equatorial. The approximate magnitudes of these variables have been communicated each month to *Popular Astronomy*, and published in that journal. To aid this work, 1,095 observations have been communicated by other observers, 278 from Vassar, 211 from South Hadley, 200 from the University of Virginia, 11 from Princeton, 265 from Mr. J. H. Eadie, and 130 from Señor Pereira. For several years, similar observations have been made at the Arequipa Station of 50 variable stars south of declination -30° . 554 observations have been made of these stars during the last year, by Messrs. Manson and Wyeth. Sequences have been selected for about two hundred of the variables discovered here from their spectra. Measures of the brightness of these stars on all the photographs on which they appear are being made, mainly by Miss Leland and Miss Breslin. It is most important to know whether the magnitudes of the comparison stars given in Volume XXXVII can still be safely used. Corrections were accordingly computed for them from the observations of the last fifteen years, and were found on the average to amount to only ± 0.08 magnitudes. This method of determining magnitudes, therefore, appears to be abundantly accurate. A comparison of photographs with nearly a hundred manuscript charts of variable stars, to detect discrepancies, has been made by Mrs. Fleming at the request of Father Hagen. The variability of the star has been confirmed independently by comparison with other photographs in each of these cases, and also for 113 other variables which have been enlarged to a scale of $20'' = 0.1$ cm., and furnish charts which are extremely convenient in observing these objects.

Needs of the Observatory.—The needs of the Observatory are nearly the same as those stated last year. Fireproof buildings

should be provided for the library, for the photographic laboratory, and for the workshop. They need not be large or expensive, and such buildings, like those in the College Yard, should have names assigned to them, and would form admirable memorials. The study of the astronomical photographs should be placed on a permanent basis. The sum of \$5,000 could well be expended annually in this work. About \$3,000 of it could be used for routine observers who would receive twenty-five or thirty cents an hour. \$1,000 should be used for more skilled assistants to supervise and prepare the material for the printer. \$1,000 should be used for publication. In this way, a vast amount of valuable material could be secured which should be promptly published in the *Annals*. Meanwhile, the material for several other volumes is accumulating, and should be published at once, or its value will be greatly diminished.

The assistants of the Observatory, some of whom have been here for many years, ought to have a gradual increase in salary. It is very hard for men or women, who begin when young to put their best energy into a work, to find after a few years, when it is too late to change their occupation, that as their expenses increase, there is not a corresponding increase in salary. This is especially the case in a subject like Astronomy, in which the number of similar positions is limited. As the Observatory is wholly dependent on its own funds, and receives no aid from those of the University, the princely gifts of the alumni, last year, for increasing the salaries of the teachers under the Faculty of Arts and Sciences, are not available for the officers of the Observatory.

Doubtless the future endowments of the Observatory may be large, but these do not provide for our present needs. It has been shown above that an immediate expenditure could be made to great advantage. It is unfortunate that year after year we should be unable to avail ourselves of opportunities now existing.

Longitude Campaign. — At the request of the Canadian Government, a longitude campaign was successfully conducted last summer between the observatories of Ottawa and Harvard. The important series of longitude determinations carried on by the Canadian Government, and extending completely around the world, has thus been connected with the extensive system in which the Harvard Observatory has taken part. Especial interest attaches to this work, since it was the first use at this Observatory of the transit micrometer, an instrument which has revolutionized longitude determinations. All the observations at Cambridge were made by Dr. Otto Klotz of the Canadian Survey, as with this instrument it is not necessary to

exchange observers. A small transit building was erected for this work after consultation with Dr. Klotz and the superintendent of the United States Coast and Geodetic Survey.

St. Louis Exposition. — The exhibit of the Observatory has been safely returned from St. Louis and a *grand prix* was awarded it, as in the case of the exhibit sent to Paris in 1900.

Library. — The Library of the Observatory has been increased by 318 volumes and 2,505 pamphlets. The total numbers of volumes and pamphlets in the Library on October 1, 1905, were 11,459 and 24,474, respectively. This collection, one of the finest of its kind in the world, is in constant danger of destruction by fire, and is scattered through the rooms of the Observatory. A suitable building to contain it is one of our most urgent needs.

Telegraphic Announcements. — During the last year, 39 bulletins have been issued, the largest number so far, making 198 in all. Of these bulletins, twelve were received from the Lick Observatory, eleven from Professor Kreutz, five from the Lowell Observatory, one or two each from five other sources, and four originated from this Observatory. The bulletins are sent gratuitously to such institutions, newspapers, and individuals as desire them and are likely to make use of them. In general, when a cipher telegram is received at the Observatory, it is translated, printed upon the bulletin sheets by an autographic process, and mailed within an hour of the receipt of the original message. Several persons are prepared to take charge of the distribution, so that, in the absence of one, another is available. The distribution of the announcements by telegraph is continued to subscribers who wish to pay for the messages.

Astronomers are requested, as heretofore, to send announcements of their discoveries to this Observatory for transmission to the observatories of Europe and America. To secure prompt attention, it is requested that all cablegrams be addressed "Observatory, Boston," and all telegrams "Harvard College Observatory, Cambridge, Mass." All correspondence relating to telegrams and announcements should be addressed to the Director.

Publications. — Volume XLVIII, No. 10; Volume LIII, Nos. 5, 6, 7, 8, and 9; Volume LVI, Nos. 1, 2, and 3; and Volume LVIII, Part I, have been printed and distributed this year. 35 pages of Volume XXXIX, Part II, Peruvian Meteorology, 1891 to 1895; 28 pages of Volume LIII, No. 10, Early Observations of Eros (433); 29 pages of Volume LIV, Durchmusterung Zones observed with the 12-inch Meridian Photometer; 42 pages of Volume LVIII, Part II, Blue Hill Meteorological Observations, 1903 and 1904, have been

put in type. The first forty-six Volumes of the *Annals*, and also Volumes XLVIII and LI, are therefore completed and distributed, with the exception of Volume XXXIX. Although no progress has been made in printing Volumes XLVII, XLIX, and LII, much has been accomplished in their preparation and the completion of Volume XXXIX may be expected soon.

The number of circulars issued this year, nineteen, is greater than in any previous year. Hitherto the average number has been ten. The numbers, titles, and dates are as follows :—

88. A New Algol Variable. —15° 4905. October 7, 1904.
89. The November Meteors of 1904. November 26, 1904.
90. 105 New Variable Stars in Scorpius. December 8, 1904.
91. Sixteen New Variable Stars in Sagittarius. December 8, 1904.
92. Stars having Peculiar Spectra. December 21, 1904.
93. The 24-inch Reflecting Telescope. March 13, 1905.
94. Variability of Eunomia (15). April 8, 1905.
95. Brightness of Jupiter's Satellites. April 11, 1905.
96. 843 New Variable Stars in the Small Magellanic Cloud. April 12, 1905.
97. Bruce Photographs of Planets. April 20, 1905.
98. Stars having Peculiar Spectra. Spectra of known Variables. May 5, 1905.
99. A Probable New Star, RS Ophiuchi. May 15, 1905.
100. Variable Stars in the Clusters Messier 3 and Messier 5. May 9, 1905.
101. Positions of Ocllo (475) during 1904. June 27, 1905.
102. Positions of Phoebe in May, 1905. July 1, 1905.
103. Positions of Ocllo (475) during 1905. July 15, 1905.
104. H 1174. A New Algol Variable, 035727. July 28, 1905.
105. A. G. C. 6886. Star having a Large Proper Motion. September 21, 1905.
106. H 1175. Nova Aquilae, No. 2. 185604. September 23, 1905.

Besides the more important publications which have been described above, numerous minor publications have been made by the officers of the Observatory.

EDWARD C. PICKERING, *Director*.

THE MUSEUM OF COMPARATIVE ZOÖLOGY.

TO THE PRESIDENT AND FELLOWS OF HARVARD COLLEGE:—

Throughout the academic year, 1904-05, eleven courses in Zoölogy were given, by Professors Mark, Jackson, Parker, and Castle, and Dr. Rand, to students in Harvard University, and four courses to students of Radcliffe College. The assistants in the University courses were Messrs. M. W. Blackman, L. J. Cole, Manton Cope-land, N. C. Davis, I. A. Field, A. D. Howard, and H. E. Walter; in those given for Radcliffe College, Mr. A. S. Pearse and Miss Edith N. Buckingham. During the summer, seven students carried on work at the Laboratory of the U. S. Fisheries Bureau at Wood's Hole, and twelve persons, six connected with Harvard University, availed themselves of the facilities offered by the Bermuda Biological Station for research. The incomes of the Humboldt Fund and the Virginia Barret Gibbs Fund have been applied, as in late years, for the benefit of students connected with the Zoölogical Laboratory.

In the Department of Geology and Geography, Professor Davis, as Sturgis-Hooper Professor of Geology, conducted two courses, one of research elected by two students, and a second, open to graduates and undergraduates, given to fifteen students. Mr. Isaiah Bowman was assistant in the second course. The geological courses, other than those of Professor Davis, were given by Professors Shaler, Jackson, Ward, Woodworth, and Jaggar, and Dr. Smith, assisted by Messrs. A. H. Gale, Augustus Locke, G. R. Mansfield, H. E. Simpson, and S. A. Starratt. These courses, nineteen in number, were attended by 460 students of Harvard University; the four courses in Radcliffe College were taken by 40 students. In the Summer School, Professor Shaler and Dr. Smith of the Geological Department, and Professor J. E. Woodman of Dalhousie College, Halifax, gave two courses to eighteen students. Professor J. B. Woodworth's course in advanced field work in the Rocky Mountains of Montana was taken by three students.

The Museum is indebted to Messrs. Bangs, Brewster, Faxon and Woodworth for the care they have taken of the collections under their charge. The accompanying special reports give the details as to the additions received and the work accomplished during the year.

Of the collections received, mention should be made of the valuable series of Vertebrates from Gorgona Island, Colombia, the Pearl Islands, Bay of Panama, and from the vicinity of the city of Panama, presented by Mr. John E. Thayer, and of the collections, chiefly entomological, presented by Mr. A. A. Packard. Mr. Packard's father, the late Professor A. S. Packard, a graduate of the Lawrence Scientific School, and a student of, and assistant to, the founder of this Museum, was connected for many years (1867-1878) with the Peabody Academy of Science of Salem, and later, from 1878 until his death in February, 1905, with Brown University. Professor Packard bequeathed to the Museum a complete set of his scientific publications, other than books, and left the disposition of his collections to his son. Throughout his life, Professor Packard was an ardent accumulator of material and a prolific author. His collections, with many types, gathered during his residence in Salem, have been the property of the Museum since 1885, and Mr. Packard, recognizing the advantages to his father's fame and to future investigators, has given the Museum the collections amassed by his father since 1878. We are also indebted to Messrs. Allen, Barbour, and Bryant for the larger part of the specimens collected during their explorations of the Bahamas; to Mr. Addison Gulick for a series of Bermudian land shells, fossil and recent, and to Professor W. W. Coe for a number of Nemerteans from the west and northwest coasts of America.

The specimens selected for the Exhibition room devoted to the Palaeozoic faunae, have been arranged, and the room has been opened to the public during the past year. The three cases on the south wall of the room are filled with Vertebrates; the other wall cases and those of the central floor space, equal in all to twenty-seven cases, are given over to the Invertebrates. The richness of the Museum collections in Palaeozoic fossils will make this room, when the material is completely mounted and labelled, fairly representative of the older faunae, and of much general interest. The casing of the Exhibition room for the Mesozoic faunal collections has been completed, and a beginning made in the selection of representative species. The floor case shows the cast of *Iguanodon bernissartensis*, from the Wealden of Belgium, as the central feature, with casts and portions of the skeletons of Dinosaurs and of Vertebrates, other than Fishes, around it. The Fishes and a few other Vertebrates occupy the wall cases on the north side of the room, while the Invertebrates will be displayed in the cases on the south side, and in the large table cases on the east and west sides. Con-

siderable wall space, outside of the cases, is used for many of the more bulky Vertebrates. To the African faunal room there has been added, by purchase from Rowland Ward, a fine male of the South African Ostrich, *Struthio australis*, and a magnificent male Hippopotamus from the Mosello River, Zambesi; the latter, an excellent example of modern taxidermy, is nearly maximum size for the species, and, with the Giraffe received in 1903, makes an effective exhibition of two characteristic African Mammals. The principal other additions to the exhibition collections consist of the Reptiles mounted by the Museum preparator, Mr. George Nelson; of these, twenty-eight have been added, the more notable being a group of the Mexican Heloderma, *H. horridum*; one of the Bahama Iguana, *Cyclura baeolophia*, and a fine Boa, *B. constrictor*. For the Boa and the Iguanas we are indebted to the interest of Mr. Thomas Barbour; the Helodermas were obtained in exchange from the American Museum of Natural History.

The U. S. Fish Commission Steamer "Albatross," under the command of Lieut. Commander L. M. Garrett, U. S. N., was placed at the disposal of Mr. Agassiz, and was occupied with deep-sea work in the Eastern Tropical Pacific from October, 1904, until March, 1905. Mr. Agassiz was accompanied by Professor C. A. Kofoid of the University of California, Mr. H. B. Bigelow, and Mr. Magnus Westergren of the Museum. The cruise extended from San Francisco to Panama, from Panama to the Galapagos, and thence to Aguja Point. From Aguja Point, the "Albatross" worked towards the western edge of the Chili-Peruvian Current, then east through the Milne Edwards Deep to Callao. Leaving Callao on December 3d, Easter Island was reached on the 15th. Considerable shore work was done at Easter Island, and on January 3, 1905, the "Albatross" arrived at Wreck Bay, Chatham Island, Galapagos. From Wreck Bay, the cruise continued to Magna Reva, and from that place to Acapulco, which was reached February 24th. Mr. Agassiz's letters, written during the voyage, have been published in the Bulletin, Vol. 46, No. 4. They give a preliminary report of the cruise; a more extended account, with charts and illustrations, will be published in an early issue of the Memoirs. The collections arrived safely and have been distributed to thirty-four specialists. The reports on the scientific results will appear chiefly in the Bulletins and Memoirs of the Museum.

The library of the Museum consists of 41,157 volumes and 35,033 pamphlets; the accessions for the year are 1,982 volumes and 1,607 pamphlets.

The publications for the year include two volumes and one number of the *Memoirs*, one volume and nine numbers of the *Bulletin*, and the *Annual Report*. The two volumes of the *Memoirs* (Volumes 30 and 31) contain the Reports on the collection of Panamic deep-sea Echini by Mr. Agassiz, and the Starfishes by Professor Ludwig, made by the "Albatross" expedition of 1891. Together, these volumes make one of the most extensive publications that the Museum has yet issued. Mr. Springer's Memoir on *Cleioocrinus* describes and figures, in detail, one of the earliest of known Crinoids, and one of most intricate structure. Of the nine numbers of the *Bulletin*, four numbers contain reports on the scientific results of the expeditions of the "Albatross," two on the one of 1891, and two on the recent cruise in the Eastern Tropical Pacific; one number is a report upon some of the results of Mr. Agassiz's expedition to the Maldives; one is a contribution from the Zoölogical Laboratory, and one a contribution from the Geological Laboratory; one number deals with Museum collections, and one volume and one number are based primarily on Museum collections. The Corporation has granted an appropriation of \$350, to assist in the publication of contributions from the Zoölogical and Geological Laboratories, and Mr. Agassiz's generous interest provides for the publication of the *Memoirs* and *Bulletins* which contain the reports on the scientific results of the expeditions connected with his work.

The appointment of Professor Hubert Lyman Clark, as assistant in Invertebrate Zoölogy, supplies a long-felt want; there is, however, urgent need for assistants in Invertebrate Palaeontology, in Entomology, and in Ornithology.

SAMUEL HENSHAW.

THE ZOÖLOGICAL LABORATORY.

TO THE PRESIDENT OF THE UNIVERSITY: —

SIR, — Tables showing the enrolment of students in Zoölogical courses by classes in the three Departments under the charge of the Faculty of Arts and Sciences and in Radcliffe College are printed in the annual reports of the Museum of Comparative Zoölogy.

Dr. Alexander Petrunkevitch, who was approved as Docent in Zoölogy to lecture on Cytology in the second half-year, was compelled by serious family sickness to leave Cambridge in the middle of the year, and was therefore unable to give the course. Otherwise the instruction given did not differ from that of the preceding year, except in so far as concerned alternating courses.

Diagrams and demonstration material used principally in Courses 1 and 2, which had hitherto been arranged in cases on the fourth floor, were transferred to the first-floor lecture-room and renumbered to correspond with their places in new cases. This resulted in saving time both to the instructors and the janitor.

After the announcement of courses in Zoölogy for 1904–05 had been issued (in July, 1904) an arrangement was made which allowed the Department to retain the services of Dr. H. W. Rand. The serious curtailment of the work in Zoölogy which had been impending — necessitating the withdrawal of Course 13 and the reduction of Zoölogy 3 to a half-course, to be given by Professor Parker — was thus averted, and it was possible to restore the courses to the same form which they had had in previous years.

The lectures in Zoölogy 1 were given by Professor Parker, who, as usual, gave systematic attention to supervising the laboratory work and to the training of the assistants who aided him in this important part of the course. The chief assistant in the course in Harvard University was Mr. Leon J. Cole, Austin Teaching Fellow; the sub-assistants were Messrs. H. E. Walter, M. Copeland, and N. C. Davis. In Radcliffe College the chief assistant was Mr. A. S. Pearse, the sub-assistant, Miss Edith N. Buckingham. Owing to the loss in previous years of a certain amount of microscopic apparatus, it was decided to institute an inspection of this apparatus at the close of each laboratory period. This resulted in entirely preventing such loss.

In Zoölogy 2, by Professor Castle, the lectures were increased to forty, and a certain amount of time each week was devoted to oral

reviews of topics discussed in previous lectures. More time than heretofore was also given by the instructor to personal supervision of the laboratory exercises, thus enabling him to become better acquainted with the work of individual students. Mr. A. D. Howard, Austin Teaching Fellow, was chief assistant in the course, and Mr. M. W. Blackman was sub-assistant.

Zoölogy 3, possibly owing to the announced change in its nature and the subsequent restoration of it to its former scope, was not so largely elected as in the preceding year. One graduate took the work for the first half-year without being enrolled; on the other hand, three of those enrolled were dropped before the end of the year. The plan of devoting occasionally a lecture hour to a conference on previous work, instead of a formal lecture, resulted in giving to some of the poorer students an increased interest in the work, and is thought by the instructor, Dr. Rand, to be worthy of further trial. A new edition of the Outline of the Laboratory Work in this course was prepared by Dr. Rand and published by the Harvard Coöperative Society. This outline on the "Comparative Anatomy of Vertebrates," originally prepared by Professor Parker, has been revised and considerably amplified by Dr. Rand in the new edition. The assistant in this course was Mr. I. A. Field.

Zoölogy 4 and 5 were given substantially as in the preceding year, Dr. Rand having charge of the laboratory work and giving in Course 4 a few of the lectures on the anatomy and histology of the Hirudinea.

Zoölogy 8 and 9 were given by Professor Jackson. Several specimens useful for students in Palæozoölogy were purchased from Ward's Natural Science Establishment, and others were received from students in the Department.

Six of the eleven students enrolled in Zoölogy 10, under Professor Castle, were allowed to take the lectures without laboratory work, and to count this as a half-course. The remaining five were occupied with the investigation of special problems, mainly questions of inheritance, and the results of their studies will be presented later for publication. Two of the five met the laboratory requirements of this course by giving additional time to the work selected for investigation in Zoölogy 20. Contribution 164 was based on work done in part in connection with this course in a previous year.

In Zoölogy 13, by Professor Parker, both lectures and laboratory exercises were substantially the same as in 1903-04; but in Zoölogy 16 the lectures were thoroughly revised. The laboratory work in Course 16 consisted, as heretofore, of separate research topics. In

four cases these were identical with the topics of the same students in Zoölogy 20. In some of the other seven cases the results reached are to be presented for publication. Contributions from the Zoölogical Laboratory numbered 161 and 162 represent work done in this course or its companion course (Zoölogy 15), and 163 is based on experiments conducted under the supervision of Professor Parker at the Laboratory of the U. S. Fisheries Bureau at Wood's Hole.

Fifteen students pursued research problems in Zoölogy 20, three under the direction of Professor Castle, four under Professor Parker, seven under Professor Mark, and one under Professors Parker and Mark jointly. As already stated, in the case of six of the students working under the direction of Professors Parker and Castle, the laboratory requirements of the more formal courses were met by devoting the laboratory time to the research work of Zoölogy 20. Mr. M. W. Blackman completed two papers, one of which he presented as a thesis for the Doctor's degree, the other being on "The Spermatogenesis of the Myriapods. IV. On the Karyosphere and Nucleolus in the Spermatocytes of *Scolopendra subspinipes*."

The work of several students is nearly ready for publication and that of others is well advanced.

The degree of Doctor of Philosophy was conferred in June, 1905, on Mr. Maulsby Willett Blackman, whose thesis was entitled "The Spermatogenesis of the Myriapods. III. The Spermatogenesis of *Scolopendra heros*."

Besides giving critical supervision to all the papers appearing as Contributions from the Zoölogical Laboratory and from the Bermuda Biological Station for Research, Professor Mark has published an address prepared for Section F (Zoölogy) of the American Association for the Advancement of Science, the title of which appears in the list of Contributions from the Bermuda Station.

Professor Jackson has published the following articles: (1) Charles Emerson Beecher. *Amer. Nat.*, Vol. 38, pp. 407-426. Portrait. June [Aug.] 1904. (2) The Protection of Native Plants. *Trans. Mass. Hortic. Soc. for 1904*, pp. 111-119. (3) Notes on the Cultivation of Peonies. *Ibid.*, pp. 141-157, figs. 1-4. (4) John Richardson: his House and Garden. *Ibid.*, pp. 159-202, pls. 1-14, figs. 5-10. (5) Professor Packard's "Lamarck: his Life and Work." *Psyche*, Vol. 12, pp. 36-38, April, 1905.

Professor Parker has published the following papers: "Maldivic Cephalochordates," *Bull. Mus. Comp. Zool.*, Vol. 46, No. 2, pp. 39-52, 2 pls.; "The Function of the Lateral-Line Organs in Fishes," *Bull. U. S. Bureau Fisheries*, Vol. 24, pp. 188-207; No.

157 of the *Contributions* from this Laboratory; in collaboration with Mr. S. A. Starratt, No. 155 of the same *Contributions*, and in collaboration with Miss Adele M. Fielde, "The Reactions of Ants to Material Vibrations," *Proc. Acad. Nat. Sci. Philadelphia*, 1904, pp. 642-650.

Professor Castle has continued his studies on inheritance in guinea-pigs and rabbits. He has published, in addition to No. 158 of the *Contributions* from this Laboratory, an address, given before the American Society of Naturalists at its meeting in Philadelphia, on "The Mutation Theory of Organic Evolution, from the Standpoint of Animal Breeding," *Science*, Vol. 21, pp. 521-525, April 7, 1905.

Dr. Rand has published three papers in the *Contributions* from this Laboratory, Nos. 156, 165, and 166, the second in conjunction with Mr. J. L. Ulrich. He also supervised the work the results of which are embodied in *Contribution* No. 167.

Dr. Petrunkévitch has published, as No. 160 of the *Contributions* from this Laboratory, a paper on "Natural and Artificial Parthenogenesis" presented before Section F (Zoölogy) of the American Association for the Advancement of Science at its meeting in Philadelphia. It is a matter of deep regret to the Department that Dr. Petrunkévitch is compelled to remove from Cambridge and give up his connection with the Laboratory.

The Virginia Barret Gibbs Scholarship was reassigned for 1904-05 to Mr. John H. McClellan.

Of the five persons carrying on work at Wood's Hole during the summer of 1904, two received aid from the Humboldt Fund to the amount of \$22.85, and of the six working at the Bermuda Station one received from the same source \$70.

During the summer of 1905 seven students carried on work at the United States Fisheries Bureau in Wood's Hole, three of them being employed as assistants in the work of the Bureau.

Five students received aid in the summer of 1905 from the Humboldt Fund, amounting to \$132.85, four while working at Wood's Hole, and one at Cambridge.

Professors Castle and Mark have received renewals of grants from the Trustees of the Carnegie Institution of Washington to aid in the study of questions in heredity.

The meetings of the Zoölogical Club were held on the afternoons of Mondays throughout the year, and the topics under discussion were announced in the *Calendar*. There were twenty-five meetings, and fifty-five papers were presented; thirty-two of them were summaries of original work.

Three numbers of the *Contributions from the Bermuda Biological Station for Research* have been published since those recorded in the report for 1904-05 :

- No. 4. COE, W. R. — The Anatomy and Development of the Terrestrial Nemertean (*Geonemertes agricola*) of Bermuda. *Proc. Bost. Soc. Nat. Hist.*, Vol. 31, No. 10, pp. 581-570. Pls. 23-25. November, 1904.
- No. 5. BIGELOW, H. B. — The Shoal-Water Deposits of the Bermuda Banks. *Proc. Amer. Acad. Arts and Sci.*, Vol. 40, No. 15, pp. 557-592. 4 maps. February, 1905.
- No. 6. MARK, E. L. — The Bermuda Islands and the Bermuda Biological Station for Research. *Proc. Amer. Assoc. Adv. Sci.*, Fifty-fourth Meeting. Separates, 32 pp., 16 pls., issued February, 1905.

Professor Parker was appointed Acting Director of the Bermuda Biological Station for Research for the summer of 1905. Besides Mr. John F. Cole, who carried on for the Station magnetic observations during the months of March and April, there were twelve biologists enrolled. Of these, seven were University instructors, three in Harvard and one each in the University of Pennsylvania, the University of Cincinnati, Washington (State) University, and Syracuse University.

The conditions which necessitated retrenchment during the year 1903-04 still continue, and weigh heavily on the Department.

It is proposed to amplify somewhat in the future the instruction in some of the courses by presenting in alternate years different portions of the fields now more or less completely covered each year. For the coming year Professor Mark's lectures on Embryology of Vertebrates will be devoted to Organogeny (Zoölogy 6), leaving the Early Stages of Development (Zoölogy 5) for 1906-07. In like manner Professor Parker's lectures on Comparative Histology will deal with Epithelial and Nervous Tissues in 1905-06, and with Muscular and Sustentative Tissues the following year. Professor Castle proposes to divide each of his alternating courses (Zoölogy 10 and 11) into half-courses (10*a*, 10*b*, 11*a*, 11*b*), which may be taken separately, and to change somewhat the ground covered. Course 11*a*, to be given in the first half of the coming year, will be devoted to Variation, Heredity, and the Principles of Animal Breeding. Course 11*b*, in the second half-year, will deal with the Natural History of Domesticated Animals. The half-courses alternating with these are to be: (10*a*) Influences of the Environment on Animal Form, and (10*b*) The Nature and Causes of Sex.

CONTRIBUTIONS FROM THE ZOÖLOGICAL LABORATORY
FROM JULY 1, 1904, TO JUNE 30, 1905.

152. ALLEN, G. M. — The Heredity of Coat Color in Mice. *Proc. Amer. Acad. Arts and Sci.*, Vol. 40, No. 2, pp. 59–163. July, 1904.
153. SARGENT, P. E. — The Optic Reflex Apparatus of Vertebrates for Short-circuit Transmission of Motor Reflexes through Reissner's Fibre; its Morphology, Ontogeny, Phylogeny, and Function. — Part I. The Fish-like Vertebrates. *Bull. Mus. Comp. Zool.*, Vol. 45, No. 3, pp. 127–258. 11 pls. July, 1904.
154. MAST, S. O. — A Simple Apparatus for Aërating Liquid Solutions. *Amer. Nat.*, Vol. 38, No. 453, pp. 655–660. September [October], 1904.
155. PARKER, G. H., and STARRATT, S. A. — The Effect of Heat on the Color Changes in the Skin of *Anolis carolinensis* Cuv. *Proc. Amer. Acad. Arts and Sci.*, Vol. 40, No. 10, pp. 455–466. November, 1904.
156. RAND, H. W. — The Behavior of the Epidermis of the Earthworm in Regeneration. *Arch. f. Entwicklungsmechanik*, Bd. 19, No. 1, pp. 16–57. Taf. 1–3. February, 1905.
157. SMALLWOOD, W. M. — The Maturation, Fertilization, and Early Cleavage of *Haminea solitaria* (Say). *Bull. Mus. Comp. Zool.*, Vol. 45, No. 4, pp. 259–318. 13 pls. December, 1904.
158. CASTLE, W. E. — Heredity of Coat Characters in Guinea-Pigs and Rabbits. *Publ. Carnegie Inst. Washington*, No. 23. 78 pp. 6 pls. February, 1905.
159. PARKER, G. H. — The Reversal of Ciliary Movement in Metazoans. *Amer. Jour. of Physiol.*, Vol. 13, No. 1, pp. 1–16. February, 1905.
160. PETRUNKÉVITCH, A. — Natural and Artificial Parthenogenesis. *Amer. Nat.*, Vol. 39, No. 458, pp. 65–76. February [March], 1905.
161. SMITH, G. — The Effect of Pigment-Migration on the Phototropism of *Gammarus annulatus* S. I. Smith. *Amer. Jour. of Physiol.*, Vol. 13, No. 3, pp. 205–216. April, 1905.
162. CARPENTER, F. W. — The Reactions of the Pomace Fly (*Drosophila ampelophila* Loew) to Light, Gravity, and Mechanical Stimulation. *Amer. Nat.*, Vol. 39, No. 459, pp. 157–171. April, 1905.
163. PETERS, A. W. — Phosphorescence in Ctenophores. *Jour. of Exp. Zool.*, Vol. 2, No. 1, pp. 103–116. April, 1905.
164. HAHN, C. W. — Dimorphism and Regeneration in *Metridium*. *Jour. of Exp. Zool.*, Vol. 2, No. 2, pp. 225–235. May, 1905.
165. RAND, H. W., and ULRICH, J. L. — Posterior Connections of the Lateral Vein of the Skate. *Amer. Nat.*, Vol. 39, No. 462, pp. 349–364. June, 1905.
166. RAND, H. W. — The Skate as a Subject for Classes in Comparative Anatomy; Injection Methods. *Amer. Nat.*, Vol. 39, No. 462, pp. 365–379. June, 1905.
167. ROMEISER, T. H. — A case of Abnormal Venous System in *Necturus maculatus*. *Amer. Nat.*, Vol. 39, No. 462, pp. 391–396. June, 1905.

E. L. MARK, *Director*.

DEPARTMENT OF GEOLOGY AND GEOGRAPHY.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—The Chairman of the Department of Geology and Geography has the honor to submit the following report for the year 1904-05.

There have been no changes during the year in the staff of instructors. Dr. P. S. Smith, in addition to his work as instructor in charge of Geology *A*, acted as assistant in Courses 4 and 5. The other assistants in the Department were Mr. H. E. Simpson, in Courses *A* and *B*; Mr. S. A. Starratt, in Courses 11 and 14; Mr. G. A. Mansfield, in 22; Messrs. A. H. Gale, Augustus Locke, and F. H. Sawyer, student-assistants in 5; and Mr. I. Bowman, in Course 6. At the end of the year Mr. Simpson left Cambridge to engage in teaching geology at Colby College, Maine, and Mr. Bowman entered upon similar duties at Yale University.

As in former years, the Department arranged with the Summer School Committee for the giving of an elementary course in Dynamical Geology at the University in the summer of 1905, which was conducted by Professor Shaler and Dr. J. E. Woodman, now of Dalhousie University. An elementary course in Physical Geography was also given by Dr. P. S. Smith. A half-course of advanced field work in geology was conducted by Professor J. B. Woodworth during July and a part of August in the Rocky Mountains of Montana, the expense being met in part by the funds of the Department, in part by fees from students, and also by a grant from the Corporation. This course was included in the "Joint Announcement," the plan of which was explained in the report of Professor Ward upon the Department for 1903-04. Two scholarships of \$100 each were available for persons of suitable preparation who by joining this course became members of the University. Four students from Harvard University attended the course.

The Department gratefully acknowledges the gift of \$100 from Sir John Murray for a collection of deep-sea deposits. In the Report of the Sub-Committee of the Department upon the Geological Museum acknowledgment is made of the use of the balance of the construction fund for cases in the large exhibition room. Dr. G. J.

Pfeiffer has deposited in the Geological Lecture Room, subject to recall at his pleasure, a large globe which has proved a useful addition to the teaching equipment.

During the winter Sir John Murray addressed the Geological Conference upon the subject of the "Deep Sea and its Deposits." Professor Albrecht Penck, of Vienna, spoke on "Climatic Variations of the Ice Age," "Glacial Sculpture of the Alps," and "Man and the Ice Age." Mr. W. D. Johnson, of the U. S. Geological Survey, also presented a paper on "The Erosion of Cirques by Glaciers."

Professor Shaler continued his lectures on General Geology in Course 4, which by reason of its restriction to students in the Lawrence Scientific School was reduced in numbers and was held for the first time in the Geological Lecture Room. He also lectured on Palaeontology in Courses 14 and 15, being assisted by Mr. Starratt in laboratory work. Professor Shaler was engaged during the year in a study of the distribution of volcanic ash deposits in the northern part of the Rocky Mountains, mainly in Montana.

Professor Davis reports that he gave his usual courses of instruction during the past year. That on the Physiography of the United States, open to graduates and under-graduates, in the second half of the year, was greatly improved with the aid of Mr. Isaiah Bowman, assistant, by the development of a systematic series of laboratory exercises, based chiefly on the topographical maps of the United States Geological Survey. The advanced course, primarily for graduates, and extending through the year, has been conducted as heretofore, each student selecting a special problem and reporting upon his work at regular meetings of the class.

During the autumn a share of Professor Davis's time was given to the publication of a report on the journey to Turkestan that was undertaken two years ago under the direction of Mr. Raphael Pumpelly as leader of a Carnegie Institution Expedition.

A meeting for the purpose of organizing the Association of American Geographers, in preparation for which there was much correspondence, was attended by Professor Davis in Philadelphia during Christmas week. This association appears to be the only geographical society in the world in which membership is limited to persons of some degree of expert knowledge and performance. During the period of the mid-year examinations a short course of lectures on physiography was given by Professor Davis at the Johns Hopkins University in Baltimore. An intercollegiate excursion was also organized by him for the purpose of visiting the glacio-marginal channels in the uplands near Syracuse, N. Y., during the April recess.

Professor Davis gave special attention during the year to three problems concerning which essays have been or will soon be published: the bearing of physiography on Suess's theories, in which certain observations made in the Tian Shan Mountains in 1903 were discussed; the problem of fault-block mountains, based on a continuation of the work of earlier years and referring particularly to the results of an excursion to certain ranges in the deserts of Utah in 1904; and the peculiar features of the geographical cycle in an arid climate, with special regard to the work of Passarge on the Kalahari Desert.

A week was given in July to the guidance of a party of students forming an intercollegiate summer geological course through the valleys of the Susquehanna and the Juniata in central Pennsylvania. On July 15th, Professor Davis sailed from New York to join the official party of the British Association on its excursion to South Africa, as a result of which his return to Cambridge was delayed somewhat beyond the beginning of the current academic year.

Professor H. L. Smyth gave the usual courses in economic geology under the auspices of this Department. The work of these courses is conducted in the Mining Building. In Course 10, the class was required to spend the major part of the April recess in field work, under the guidance of advanced students, at Pondville, Mass.

Professor R. T. Jackson reports that instruction was given as usual in Courses 11 and 15. Course 20d was also given by him. Mr. Starratt assisted in Course 11. The teaching collections in Palaeontology are in good condition. They have been used to some extent by students in Course 14. Some material has been purchased from Ward's Natural Science Establishment, and a considerable number of photographic diagrams have been added. These diagrams afford faithful reproductions of original published figures at a very small cost.

Professor Ward reports that, in accordance with a recommendation of the Committee on Improving Methods of Instruction, the hour of the Course in Meteorology (Geology B) was changed from 11 A.M. to 3.30 P.M., the result being a reduction of more than one-half in the number of students. The advantages of the afternoon hour are so great, however, that the lectures are given at the same time during the year 1905-06. In Geology 2 (Climatology of the United States), many new laboratory exercises were given, in order that the time spent by the students might be more nearly that which the Committee on Instruction desires to have required in all courses. The result of these changes was a distinct gain in the understanding

of the subject-matter of the course. Two theses in Geology 19 (General Climatology) have been accepted for publication.

A most important step toward the improvement of the instruction in Meteorology and Climatology has been taken in providing a proper place for a meteorological observatory. The anonymous gift of \$200, acknowledged last year, has made it possible to erect on the roof of the Geological Section of the University Museum a substantial platform, where all needed instruments may be set up, and instruction in practical instrumental work given. This platform was built in June, 1905, with the approval of the Director of the University Museum. Some changes have been made in the stairway and in the door leading to the roof, in order that access may be safe and easy. A portion of the attic directly beneath the platform will later be adapted as an instrumental work room. Several instruments will be in working order in January, 1906. As opportunity offers, additional instruments will be purchased. The advantages of having this small working meteorological observatory for the use of students in Meteorology and Climatology will be very great, and the instruction in these subjects will be materially strengthened.

On May 20, 1905, the Eastern Association of Physics Teachers held a meeting in the Geographical Laboratory. Professors Davis and Ward gave addresses, and a number of lantern slides and laboratory and lecture materials used in the courses in Meteorology were exhibited.

Professor J. B. Woodworth gave, as in former years, the Courses 5 and 8 in dynamical and structural geology, and also a new half-course in the physical geology of the Carboniferous period, instead of the customary course in glacial geology. For a number of reasons it seemed desirable to rearrange the first and second years' work in general geology, and to make the fullest use of the large laboratory devoted to geology on the second floor of the Museum. For a great many years large numbers of students who do not take the upper courses dealing with historical palaeontology have taken Courses 4, 5, and 8, the subject-matter of which is mainly dynamic geology, though in the latter course about one-half the lectures have in recent years been devoted to the physical features of the great geological systems, and laboratory work has been introduced to supplement the lectures and field work. It has therefore been arranged for the year 1905-06 to combine the laboratory and field work of the course known as Geology 5 with Professor Shaler's lectures in Geology 4, to be offered as a half-course in the first half-year, and to offer the part of Geology 8 dealing with historical geology as a half-course in

the second half-year, thus enabling a student to obtain in his first year a general outline, with suitable laboratory and field experience, of the whole field of geology. Considerable time has been devoted in gathering the materials for this half-course in historical geology. A large number of specimens have been added, through the kindness of Professor Wolff, from the Fraser Collection, and through the transfer of fossils from the palaeontological laboratory by Professor R. T. Jackson.

In connection with the field work of his courses Professor Woodworth obtained additional examples of the carboniferous amphibian foot-prints at Plainville, Mass., and with Dr. Smith and Mr. Starratt made a collection of rocks and fossils from Martha's Vineyard for the Museum in the April recess.

Professor Woodworth devoted his available time for research, particularly during the summer, to the New York geological survey. Instruction was given to Radcliffe students in two half-courses and one full course, in which he was assisted by Dr. Smith in the field.

The geological laboratory received from Mr. Philip T. Coolidge, of Watertown, Mass., the valuable gift of a series of rocks and fossils collected by him in eastern New York in 1903. The following gifts are also gratefully acknowledged: from Dr. James M. Bell, specimens of the glacial clays and interglacial lignites of northern and northwestern Ontario; from Professor Penck, sand-blasted fragments of limestone from the mouth of the Virgen river, Arizona; from Mr. W. F. Harrison, fragments of fossils from the Middle Cambrian beds of Braintree, Mass.; from Mr. Albert P. Morse, a collection of sand-blasted wood from the dunes of Ipswich, Mass. This last collection has been reserved for the Geological Museum. Professor Woodworth was also enabled to add a collection of rocks and fossils, made in the work of the summer school conducted in the summer of 1905, including representatives from the Crazy Mts., the Gallatin and Madison Valleys, and the region of Old Baldy Mt., in Montana.

At the close of the summer school Professor Woodworth extended his journey to the Pacific coast, returning by way of Nevada and Wyoming for the purpose of inspecting certain areas not previously visited.

Professor Jaggard was granted leave of absence from September 1, 1904, for a part of his time, to give instruction in the Massachusetts Institute of Technology, and take charge of the Department of Geology of that Institution. He continued to teach two advanced courses in field geology in Harvard University, Courses 22 in this

Department and 28 in the Mining Department, both of which make use of the advanced laboratory in the geological section of the Museum. Certain members of the class in Course 22 made discoveries which will lead to publication. Mr. G. R. Mansfield was associated with Professor Jaggar in conducting the work, and prepared a paper on the "Quaternary Gravels of the Northern Black Hills." Mr. F. E. Matthes made an extended study of the structure and distribution of eskers south of Weymouth. Mr. I. Bowman coöperated in this work, and also found glauconitic clays and more of the lignite first reported by Upham in the cliffs of Scituate, Mass., which may prove to be of pre-Pleistocene origin. Mr. H. E. Simpson, in collaboration with Mr. G. F. Low, finished a topographic model of Crook Mountain, a laccolithic dome in the Black Hills.

Professor Jaggar continued his experimental studies of erosion, for which purpose a pneumatic spraying apparatus was installed in the basement of the Museum. He made a new model of the sclerometer, an instrument for testing the hardness of minerals, and also constructed a telemeter-alidade for reconnaissance mapping. Experiments with these instruments are in progress.

Mr. François E. Matthes, of the U. S. Geological Survey, gave a course (Geology 13) in topographic work for the instruction of students in geological surveying.

The sub-committees of the Department present the accompanying brief reports.

The committee on the Gardner Collection of Photographs (Professors Ward and Woodworth, and Dr. P. S. Smith) reports as follows:—

STATE OF THE GARDNER COLLECTION, JUNE 27, 1905.

Items.	Photographs.	Slides.	Negatives.
Accessions since last report	87	103	127
Unidentified views	253	30	..
Duplicates	144	51	..
Broken . . . . .	..	1	..
Last accession No., June 14th.	5654	4308	..
Number now in Collection	5582	4623	1236

The accessions for the year include slides and photographs from the British Association for the Advancement of Science; gifts to the University from Messrs. Du Bois, F. E. Matthes, Robert W. Sayles, W. M. Davis, and J. B. Woodworth; also twenty-six views from Professor Shaler which have not yet been placed in the Gardner collection. During the year Mr. Turpin of Boston spent consider-

able time in repairing and rebuilding the slides. He was also employed in making a number of negatives from original materials.

The sub-committee on the Geological Museum (Professors R. T. Jackson, Jaggar, Wolff, and Woodworth) report that in November, 1904, the Corporation granted to the Geological Department \$1160.12, the balance of the building fund of the Geological Museum, to be expended for cases in the exhibition rooms. With this money and by making use in part of old cases given last year by the Museum of Comparative Zoölogy, six cases have now been built in the southwest exhibition room. They are, namely, one long wall case on the east wall; three cases between windows on the west wall, and two large centre cases with table and upright central portion and space beneath for storage in trays. These cases when filled with exhibition material will make an excellent nucleus for the Geological Museum.

A sub-committee appointed to make nominations for the Josiah Dwight Whitney Scholarship (Professors Davis, Jaggar, and Woodworth) recommended that two scholarships of \$100 each be awarded by the Corporation to Messrs. S. A. Starratt and W. F. Low, students in the course given in the Rocky Mountains of Montana in the summer of 1905 by Professor Woodworth, and the Corporation made this award.

The following is a list of publications which have appeared since the last report:—

1. A comparison of the Features of the Earth and Moon. By N. S. SHALER. *Smithsonian Contributions to Knowledge*, XXXIV, No. 1438, 1903, pp. 1-130, pls. 1-35.
2. The Relations of the Earth Sciences in view of their progress in the Nineteenth Century. By W. M. DAVIS. *Journ. Geol.*, XII, 1904, pp. 669-687.
3. Glacial Erosion in the Sawatch Range, Colorado. By W. M. DAVIS. *Appalachia*, X, 1904, pp. 392-404.
4. A Journey across Turkestan. By W. M. DAVIS. Carnegie Institution, Washington, D.C. *Publication No. 26*, 1905, pp. 21-119.
5. The Opportunity for the Association of American Geographers. By W. M. DAVIS. *Bull. Amer. Geog. Soc.*, 1905, pp. 84-86.
6. The Bearing of Physiography on Suess's Theories. By W. M. DAVIS. *Amer. Journ. Sci.*, XIX, 1905, pp. 265-273.
7. Tides in the Bay of Fundy. By W. M. DAVIS. *Nat. Geog. Mag.*, XVI, 1905, pp. 71-76.
8. Leveling without Baseleveling. By W. M. DAVIS. *Science*, XXI, pp. 825-828.
9. Charles Emerson Beecher. By R. T. JACKSON. *Amer. Nat.*, XXXVIII, No. 450, 1904, pp. 407-426.

10. The Protection of Native Plants. By R. T. JACKSON. *Trans. Mass. Hort. Soc. for the year 1904*, Part I, 1904, pp. 111-119.
11. Notes on the Cultivation of Peonies. By R. T. JACKSON. *Ibid.*, pp. 141-157, figs. 1-4.
12. John Richardson: his House and Garden. By R. T. JACKSON. *Ibid.*, pp. 159-202, pls. 1-14, figs. 5-10.
13. Professor Packard's "Lamarck: his Life and Work." By R. T. JACKSON. *Psyche*, XII, 1905, pp. 36-38.
14. Notes and Reviews. By R. DEC. WARD, in *Science*, *Bulletin of the American Geographical Society*, and the *Journal of Geography*.
15. Administrative Report of Work done in New York. By J. B. WOODWORTH. Embodied in the 22d Annual Report of the State Geologist, Dr. F. J. H. Merrill, for 1902. *56th Annual Report of the N.Y. State Museum, Albany, N.Y.*, 1904, pp. r8-r10.
16. Pleistocene Geology of Mooers Quadrangle, being a portion of Clinton County, N.Y. By J. B. WOODWORTH. *Bull. 83 (Geology 7)*, *N.Y. State Museum*, 1905, pp. 1-62, with colored geographical map and pls. 1-25.
17. Ancient Water-levels of the Champlain and Hudson Valleys. By J. B. WOODWORTH. *Bull. 84 (Geology 8)*, *N.Y. State Museum*, 1905, pp. 63-268, pls. 1-29, 24 figs. in text.
18. The Brandon Clays. By J. B. WOODWORTH. *Report of the Vermont State Geologist, 1903-04*, pp. 166-168.
19. Reviews of Geological Books. By J. B. WOODWORTH, in the *Nation*, *Amer. Journ. Sci.*, and *Amer. Nat.*
20. A Reprint of Penning's Dip, Depth, and Thickness Table. Edited by J. B. W. Published by the University, 1904. 1 p.
21. Economic Resources of the Northern Black Hills. By T. A. JAGGAR, JR. Part I, General Geology (and geological maps). *Professional Paper, No. 26*, U. S. Geological Survey, Washington, D.C., 1904, pp. 1-41.
22. The Tertiary History of the Tennessee River. By D. W. JOHNSON (under direction of Professor DAVIS). *Journ. Geol.*, XIII, 1905, pp. 194-231.
23. The Development of Cut-off Meanders. By W. S. TOWER (under direction of Professor DAVIS). *Bull. Amer. Geog. Soc.*, 1904, XXXVI, pp. 589-599.

J. B. WOODWORTH, *Chairman.*

THE DEPARTMENT OF MINING AND METALLURGY.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — The number of students in Mining and Metallurgy at the beginning of the year 1904-05 was 67, or 12.6 per cent. of the total enrolment in the Lawrence Scientific School. For comparison the corresponding numbers in previous years are given in the table below.

	'95-96	'96-97	'97-98	'98-99	'99-00	'00-01	'01-02	'02-03	'03-04	'04-05
Students in Mining and Metallurgy .	7	13	17	19	30	42	67	75	68	67
Students in the L. S. S.	340	368	410	415	495	507	549	584	548	530
Per cent.	2.1	3.5	4.1	4.6	6.1	8.3	12.2	12.8	12.6	12.6

The course has been established for eleven years. Not including undergraduates now in the School, 178 students in all have been enrolled in it. One hundred and thirty-nine of these have been regular students, while thirty-nine have been specials. Including the year 1904, the degree of S.B. in Mining and Metallurgy has been given to 39 persons, or 22.2 per cent. of the names enrolled. Twenty-five of these degrees, or practically two-thirds, have carried some grade of distinction, a fact which, as I pointed out in my report last year, is explained by the elimination of incapable and lazy students through the stringency of our requirements.

Of the 39 special students whose names have been borne on our lists, a very small number, certainly not more than three or four, have entered in order to pursue special work without any intention of becoming candidates for the degree. The rest have been admitted as special students because they could not pass the number of points required for admission to regular standing, but with the expectation that they would be able in time to attain regular standing and finally graduate. If the success of this method of admission is to be measured by the extent to which this expectation has been realized, as far as this Department is concerned it would seem to be a failure, for as yet only two students admitted on this footing have attained

the degree. It is fair to state, however, that students of this class have caused this Department little embarrassment, for very few of them have come under its instruction. For the most part they have been separated from the School or have changed into other programmes in the first year or two of residence.

The operations of Mining and Metallurgy fundamentally consist in the application of many sciences to these useful arts; and therefore the technical studies in these subjects require a good preliminary grounding in mathematics, physics, chemistry, mineralogy, and geology. For this reason this Department offers no really elementary course. With the exception of two half-courses, none of its work may be taken except after previous study for at least two years in specified subjects. It would therefore be an easy matter to reorganize its instruction in such a way that most of it might be incorporated in a graduate school of technical science.

The appointment of Dr. Peters to a full professorship of Metallurgy has enabled our work in this direction to be expanded as well as improved. We look forward, moreover, to still further growth in several other directions. Owing to our geographical position, the members of the Department have felt that we ought as soon as possible to give particular attention to the mining of coal, with its special engineering problems, and to the economical utilization of fuel and its products. Also electro-metallurgy and the metallurgy of the less common elements are subjects of growing importance to which we ought to give more attention. We hope, too, very soon to be able to expand the summer work by offering a three weeks' course in Mine Surveying and a course in Metallurgy similar to Mining 12.

The Crocker School of Practical Mining, which was so successful in the summer of 1904, had to be given up because the money could not be raised to continue it. Therefore it was necessary last year to provide independently for our own summer work in Mining 12. It was decided to give this course in three parts, consisting of required underground surveying, a voluntary excursion, and required practical work in the mines.

The underground surveying was in charge of Dr. Boynton. The class of ten students spent ten days in making and platting a closed survey at a copper mine in Vermont. The work began on June 16th and was completed on June 26th.

The voluntary excursion was in charge of Professor C. H. White. The party of ten assembled in Baltimore on June 30th, and after visiting the plant of the Maryland Steel Company and other industrial establishments in that city, proceeded directly to Dahlenega,

Georgia, where gold mines, mills, and dredging operations were studied. Birmingham was the next important stop, and there and in the surrounding district, coal and iron mines, blast furnaces, steel mills, etc., were visited. Next copper-mining and smelting were studied at Ducktown, Tennessee; iron-mining and magnetic concentration at Cranberry, North Carolina; and blast furnace practice at Embreeville and Johnson City, Tennessee, and Bristol, Virginia. The excursion ended July 21st with visits to coal mines in the Big Stone Gap district, Virginia.

From the technical standpoint the chief value of this excursion consisted in the great variety of objects, processes, and methods with which the student was brought in contact. But apart from this, so broad a view of the important mining and metallurgical industries and peculiar labor problems of a region to which our students do not often go could not fail to have an enlarging influence on them.

Everywhere the party was received with the utmost courtesy and hospitality. Free transportation south of Washington was furnished by the Southern Railway. The Louisville and Nashville, the Eastern Tennessee and Western North Carolina, and the Virginia and Southwestern lines also carried the party free of charge for shorter distances.

The third part of the course consisted of practical work underground. The student was allowed to select his own district and work there without supervision. He was furnished, however, with a syllabus to guide his observation and study. On this part of the course he is to make a written report, accompanied by his note-book and sketches.

This plan has given less satisfactory results than were attained in the Crocker School, although it has been a great improvement over the way in which Mining 12 was formerly conducted, that is to say, as a tour of observation only. Accordingly it is to be desired that the Crocker School or one organized on the same general plan should be made permanent. This would require an endowment of \$300,000 if the four institutions which coöperated in 1904, namely, Harvard, Yale, Columbia, and the Massachusetts Institute of Technology, were all to continue to take part in it.

It might be thought that the discouraging effect of the higher laboratory fees was the explanation of the fact that so few of our students choose the Metallurgical option, if the other American schools did not show a similar disparity in numbers between those fitting themselves for careers in Mining and in Metallurgy. Indeed most of the European schools have had the same experience.

The greater attraction of Mining for young men is hard to understand in face of the unquestionable facts that Metallurgy is easier to get a start in, that it offers greater rewards to first-class men, and that it affords pleasanter conditions of living than usually fall to the lot of the mining engineer.

Places were found for all our graduates of last June who wanted them, and the scheme of coöperation to this end between old Harvard men and the Department, mentioned in my report of last year, is fairly under way. Several gentlemen have interested themselves very actively in this matter, so that it would have been possible to provide for more than twice as many men as were available. Also through the efforts of the Department some graduates of experience secured positions of responsibility. It is pleasant to note the existence of a strong *esprit de corps*, not only among the undergraduates but among the graduates as well, who show it by a general desire to help in finding places for the younger men.

Last year Dr. H. C. Boynton, Instructor in Metallurgy and Metallography in this Department, was awarded an Andrew Carnegie Research Scholarship by the Council of the Iron and Steel Institute of Great Britain. The object of these scholarships is to enable students who have passed through college or who have been trained in industrial establishments to conduct researches in the metallurgy of iron and steel and allied subjects with the view of aiding its advance or its application to industry. The appointment is for one year, but the Council at their discretion may renew the Scholarship for a further period. This distinguished honor, which Dr. Boynton is the third American to win, was secured by the publication of his important researches carried out in the Simpkins Laboratory under Professor Sauveur and presented in 1904 as a thesis for the degree of S.D.

Dr. Boynton has now undertaken the investigation of the relative hardness of the micro-constituents of iron and steel. Considerable uncertainty and difference of opinion still exist concerning the exact nature of some of these constituents, and it is believed that accurate data concerning their hardness will be of very great value in establishing their true character. Such information would in many other ways contribute to the advancement of Metallography besides being susceptible of practical application.

The Department has been awarded a gold medal for its exhibit at the World's Fair at St. Louis. Professors Raymer, Sauveur, and White, the Committee in charge, deserve great credit for getting together so interesting an exhibit at so small a cost.

The following publications by members of the Department have appeared during the last academic year:—

Flammofenpraxis im Amerikanischen Kupfer-Huettenbetrieb. E. D. PETERS. In *Metallurgie*, January 8 to February 8, 1905, inclusive.

Pyrite Smelting. E. D. PETERS. *Pyrite Smelting*, pp. 132-192. New York, 1905.

The Simpkins Laboratory at Harvard. G. S. RAYMER. *Engineering and Mining Journal*, February 16, 1905.

The Iron and Steel Magazine, Vols. IX and X. A. SAUVEUR, *Editor*. Metallography applied to Foundry Practice. A. SAUVEUR. *Foundry*, May and June, 1905.

The Micro-Structure of Cast Iron. A. SAUVEUR with W. J. KEEP. A report of work done in the Metallographical Laboratory of Harvard University. *American Society of Mechanical Engineers*, June, 1905.

The Origin and Classification of Placers. H. L. SMYTH. Three papers. *Engineering and Mining Journal*, May and June, 1905.

Autophytography; a process of plant fossilization. C. H. WHITE. *American Journal of Science*, March, 1905.

H. L. SMYTH, *Chairman*.

MINERALOGICAL MUSEUM AND LABORATORIES OF MINERALOGY AND PETROGRAPHY.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—The lighting of the mineralogical exhibition rooms by means of Nernst electric lamps of various powers (described in detail in my last report) has been in successful operation for nearly a year, and accomplishes the purpose for which the system was installed. The cost of current for the first year will be about \$250, but it is probable that in succeeding years this cost will be reduced owing to the present lower price of current and to greater economy in the use of the lights. The cost of this experiment for a term of years is borne by a friend of the Museum.

An offer was received last fall from the Himalaya Mining Company, operating tourmaline mines in San Diego County, California, to loan for exhibition a large and valuable collection of these American tourmalines. While our Museum has rarely accepted exhibits on loan, the extraordinary beauty and size of this collection made it almost a duty to accept the offer for the sake of the public. Accordingly one of the two gem cases in the gallery has been filled with a collection of natural crystals and cut stones of various sizes and shapes, including also some California chrysoprase and turquoise; and, in a new case built facing one of the windows, a number of the finer crystals have been placed on thin plate glass supported above white velvet so as to bring out the colors by strong transmitted light. The crystals are either a deep transparent pink, or various shades of green, or combinations of these colors; they are in most cases doubly terminated with brilliant planes and so are practically perfect; there are in all nearly 300 of the crystals, large and small, 250 stones cut in various forms, such as brilliants, pendants, heart-shaped, en cabuchon and intaglios, and 200 polished sections of whole crystals; also 70 cut stones of chrysoprase and turquoise—in all over 800 pieces. Taken together with the Hamlin collection of tourmalines in the adjacent case, this is probably the largest and most valuable collection of tourmalines ever brought together for exhibition.

Assistant Professor Palache has continued the gradual collection of material for an exhibit of the minerals of economic importance

and their products; and the Museum has received from a number of firms and individuals generous gifts of material for this purpose, a partial enumeration of which follows:—

Monazite and its products, from the Welsbach Light Co.
Asbestos and its products, from the Johns Mansville Co.
Carborundum, from the Carborundum Co.
Graphite and products, from the Joseph Dixon Graphite Co.
Gypsum and its products, from the U. S. Gypsum Co.
Stassfurt salts, from the German Kali Co.
Talc and its products, from the N. C. Talc and Mining Co.
A large piece of nickel ore, from the International Nickel Co.
Graphite and metallic silicon, from the Acheson Graphite Co.

An interesting and unique gift came from Mr. E. R. Emerson in the shape of the whole of a small iron meteorite which was found in 1898 by a prospector on the northeast slope of Mt. Ouray, Colorado, at an altitude of 10,500 feet, and given by him on the same day to Mr. Emerson.

The usual number of accessions have been received by gift or purchase.

JOHN E. WOLFF, *Curator*.

THE PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—The researches in Central America, which have been carried on each year since 1891, were continued during the past year under the direction of Mr. E. H. Thompson in Yucatan, and by Mr. Teobert Maler in Guatemala.

During the winter months Dr. A. M. Tozzer was again in Yucatan continuing his studies, ethnological and linguistic, among the Mayas and Lacandones, as fourth-year American Fellow of the Archaeological Institute of America. On his return in the spring of 1905 he was appointed Instructor in Central American Archaeology for the year 1905-06.

During the summer of 1905 archaeological explorations were carried on in three different places in the United States, and three Harvard men were afforded an opportunity for gaining practical experience in archaeological field work. One of these expeditions was under the direction of Mr. M. Raymond Harrington, assisted by Mr. Irwin Hayden (B.A.S. Harvard 1905), Winthrop Scholar in Anthropology for 1905-06. This was in continuation of the exploration of certain old Indian sites in New York State which had been carried on by Mr. Harrington for the Museum during the summers of 1903 and 1904. Another exploration was of an old Mandan site in North Dakota, by Mr. G. F. Will (Harvard 1907) and H. J. Spinden (Harvard 1906). Dr. R. B. Dixon superintended the beginning of the work at this site. The third exploration was conducted by Mr. Ernest Volk, who for many years carried on researches for the Museum in the Delaware Valley and made discoveries there showing that man was living on the Atlantic Coast during the glacial period. Mr. Volk spent the summer in Ohio exploring several places, within the enclosure about the Turner Group of Mounds, which were not included in the long-continued exploration of that interesting group, by the Curator and Dr. Metz, over a decade ago. We have thus secured additional facts relating to this important group of Ohio mounds and to the archaeology of the immediate vicinity. Dr. Metz rendered assistance to Mr. Volk in many ways during this exploration.

These several explorations were made possible by using the income of the Henry C. Warren Fund and the recent gift of Mr. Clarence B. Moore of the Visiting Committee.

Dr. W. C. Farabee, Instructor in the Division, took a party of Harvard students to Iceland during the summer. The party travelled about nine hundred miles in visiting the chief points of interest on the island. Side trips were made by members of the party. One of the objects of the excursion was to secure such knowledge as could be obtained by scientific research in relation to the earliest inhabitants of the island. Mr. V. Stefánsson, Hemenway Fellow in Anthropology, and Mr. J. W. Hastings (Harvard 1905) explored old Icelandic burial-places and made a valuable collection of skeletons of the earliest people of the island. Mr. Hastings also made anthropometric measurements of many of the Icelanders. The caves of Iceland are of post-glacial volcanic origin and show no indication of having been occupied by man. No stone implements have ever been found on the island. These investigations led to the conclusion that the island was probably not inhabited prior to its settlement by the Norwegians in A.D. 872. Researches and collections were made by members of the party in geology and ornithology. After the disbanding of this expedition, Dr. Farabee spent the remainder of the summer in visiting the European museums and archaeological sites, and especially in studying the evidences of early man in the Old World.

Mr. D. I. Bushnell, Jr., Assistant in Archaeology, has spent the year in Italy, where he has been well received by Italian archaeologists. He is engaged in making a study of the museums and archaeological sites in Italy. With a small appropriation from the Huntington-Frothingham-Wolcott Fund he secured for the Museum the contents of an Etruscan tomb. In the *American Anthropologist* for April-June, 1905, he has described and figured two ancient Mexican atlatis which are in the museum at Florence.

The income of the Huntington-Frothingham-Wolcott Fund has been used in the purchase of various objects and small collections, principally of North American and Polynesian ethnology, which were important in filling gaps in our series.

The income of the Susan D. Warren Fund has again been applied to the cost of the cases in the Indian Gallery, in accordance with the vote of the Museum Faculty.

Two new appointments have been made in the Division for the year 1905-06, namely, Dr. A. M. Tozzer, Instructor in Central American Archaeology, and Mr. V. Stefánsson, Assistant in Anthro-

pology. In addition to the new half-course on Central American Archaeology and Ethnology, a new research course in General Ethnology is to be offered by Dr. Dixon.

The Museum has issued during the past year the following publications:—

A Penitential Rite of the Ancient Mexicans. By ZELIA NUTTALL. *Peabody Museum Papers*, Vol. I, No. 7, 1904.

Index to *Papers*, Vol. I. Prepared by Miss MEAD, 1904.

Representation of Deities of the Maya Manuscripts. By Dr. PAUL SCHELLHAS. (A translation from the German.) *Papers*, Vol. IV, No. 1, 1904.

Inheritance of Digital Malformation in Man. By Dr. WILLIAM C. FARABEE. *Papers*, Vol. III, No. 3, 1905.

Index to Vol. IV of the Museum Reports. Prepared by Miss MEAD, 1905.

Since the last report 159 volumes and 30 pamphlets have been added to the Museum Library, which now contains 3,297 volumes and 2,938 pamphlets.

As in several former years, the collections representing the life and customs of the North American Indians have been greatly enriched in scientific value and in popular interest by the generous gifts of Mr. Lewis H. Farlow. Since the last report we have received from him the following specimens: Harpoon line carrier, ice scoop, spears, walking stick and clothing of the Eskimo of Alaska; ceremonial mask of copper, copper bracelets, engraved ceremonial head ornaments, fishing implements and basketry of the Haida and Tlingit Indians; ceremonial bark neck rings, basketry and domestic utensils of the Salishan and Wakashan tribes of British Columbia, Washington and Oregon; rare baskets, games and other objects of the Pomo, Hupa, Maidu and Mission Indians of California; a very rare and complete feather dance costume of the Mutsun Indians; buckskin leggings and other clothing of the Apache and Shoshonean tribes; three very rare old medicine shields, and two rare types of war bonnets of the Crow Indians; a war bonnet, buckskin bags, breastplate, leggings and beaded cradle of the Dakota Indians; also several valuable specimens from the tribes of the Pacific Islands, Africa, and the Philippine Islands.

From the Belgian government, through the Musée Royal d'Histoire Naturelle, M. Ed. Dupont, Director, we have received the collection exhibited at the St. Louis Exposition to illustrate the different periods of prehistoric time in Belgium according to the classification of M. A. Rutot, curator.

From Dr. Alexander Agassiz we have received models of three types of canoes from Paumotu group; two paddles, three copper fishhooks and stone implements from Gambier Islands; two staffs of office, dance paddles, carved wooden image, stone head, various stone implements, including celts, knives and hafted spears, two large stones with characteristic carving, two seines, tapa cloth and two skulls from Easter Island; also twelve copper and bronze objects from Tiahuanaco, Peru.

From Mr. Charles P. Bowditch we have received matting from Attu Island, Alaska; basket from Point Barrow; two Pomo baskets and a collection of basket material of the Tlingit Indians; twenty-seven views of monuments and ruins, taken by Mr. Teobert Maler in Southern Mexico and Guatemala; and several hundred small stone beads from an ancient pueblo ruin in New Mexico.

From Dr. L. C. Jones of Malden we have received two feather head dresses and a necklace of the Indians of Minnesota; Ojibwa bark box with quill work; fragment of Indian pipe made into a whistle, Sandwich, Mass.; pipe from grave in Plymouth County, Mass.; Sioux tobacco bag; photographs of Melanesian canoe; and a Solomon Island bow with five arrows.

By gift of Miss Mary L. Ware of Boston the Museum has secured an interesting old Quiché manuscript containing from eighty to one hundred thousand words in the Quiché language. Mr. Robert Burkitt from whom the manuscript was secured refers to it as comprising religious and grammatical instruction, sermons for various occasions, and prayers, composed by missionaries about two hundred years ago.

From other individuals interested in the Museum we have received the following:—Dr. W. C. Farabee, twenty-seven photographs of Pueblo, Navajo and Blackfoot Indians taken during trip of 1904, stone axe from Damariscotta, Me., pestle from British Columbia, and specimen of haircloth from Cañon de Chelly; Mr. F. H. Kennard, Brookline, Mass., thirty-nine photographs of American Indians; Miss Lottie Nichols, Sandwich, Mass., club, ceremonial paddle, spear, and bow and arrows from Solomon Islands, collected by the late Capt. Nichols and presented through Dr. L. C. Jones; Miss Alice E. Putnam, two blow guns with arrows from Java; Rev. S. P. Verner, bow and six poisoned arrows, one iron-pointed arrow and firestick of the Batwa Pigmies from the upper Congo; Mr. Everell F. Sweet, Malden, Mass., mask from New Zealand, two obsidian pointed spears from Admiralty Island, four spears from New Hanover, one spear (unidentified) obtained by Capt. Brown

of Barque Alice at Marshall Island, presented through Dr. L. C. Jones; Mr. C. B. Moore, Philadelphia, shell "clubheads," celts, pendants, etc., and pendants of coral rock from Key Marco, Florida; Mrs. S. J. Mixter, Boston, eighty-five specimens of chipped jasper implements and flakes found in a cache, and a pestle-like implement, from Twin Sisters Island, Me.; Mr. Langdon Warner, Cambridge, bow for shooting stones and a slug from Turkestan; Miss Grace Nicholson, Pasadena, Cal., Eskimo carving representing interior of hut and native dance, and eight carved figures; Professor M. H. Morgan, buckskin coat and pipe of Seminole Indians, Florida (collected by Professor Morgan's grandfather's brother, who was killed by the Seminole Indians in 1839); Mr. H. R. Gardner, Cambridge, model of "Bandaga" or native boat and wooden overshoes, Brazil, a pottery vase, and a fine old Micmac Indian birch bark box ornamented with porcupine quillwork; Mrs. J. H. Lewis, Minot, No. Dak., stone maul from near Minot; Professor F. W. Putnam, shell beads, shell and stone pendants, perforated Olivella shells and three armlets of Petunculas shell from ruin on mesa at Chaco Cañon; Miss Adela C. Breton, Bath, England, stone paint metate; Mr. William K. Porter, Jr., Boston, embossed leather Mexican saddle; Mr. John L. Saltonstall, Boston, seventeen pieces of prehistoric Costa Rica pottery; Dr. Townsend W. Thorndike, Boston, bag of moose skin from Pegansikum band of Saulteaux tribe; Professor J. B. Woodworth, six glyptoliths or sand-blasted pebbles, Martha's Vineyard; Mr. Clemente Viranco, Tenosique, Mexico, fragment of Maya inscription, effigy of human head in stone and portion of human figure in terra cotta; Mrs. W. M. James, Merida, Yucatan, bark cloth poncho of the Lacandone Indians; Mr. Owen Bryant, seventeen quartz arrowheads from Manassas, Va.; Dr. Clarence J. Blake, Boston, woman's buckskin dress and twenty-six photographs of American Indians, also four views of ruins of Mitla and twenty views of modern Mexico; Miss N. M. Betteley, Cambridge, terra cotta doll of the Mohave Indians; Mrs. Crosby Brown, New York, sixteen photographs of Mexican musical instruments, and one photograph and five plates showing old musical instruments of various times and places.

The numerous accessions to the Museum have been prepared for study, exhibition, or storage by Mr. Willoughby. In the arrangement of the cases, Mr. Willoughby has added materially to the interest and importance of the various rooms by the addition of photographs, plans, and maps, as well as by his artistic arrangement of the specimens.

During the past year my connection with the University of California was so modified that I remained in Cambridge during the whole of the College term, 1904-05, and was in California during the months of July, August, and September.

F. W. PUTNAM,

Peabody Professor and Curator of the Museum.

THE SEMITIC MUSEUM.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — Since my last annual report the Museum has acquired by gift a small collection of Greek papyri from the Egypt Exploration Fund ; a number of Oriental coins, collected by the late Professor J. Henry Thayer ; a copy of the colored relief map of Palestine, “ constructed from the surveys of the Palestine Exploration Fund by G. Armstrong, acting secretary of the Fund,” presented by Mrs. Richard Rogers Bowker ; and a copy of *L'Ornement Hébraïque*, the reproduction in color of illustrations in Hebrew manuscripts, largely of the tenth and eleventh centuries, edited by D. Gunzburg and V. Stasoff, presented by Mr. Jacob H. Schiff.

By purchase there has been acquired a small collection of antiques, chiefly Palestinian ; a few of the Palestinian objects exhibited by the Palestine Exploration Fund at the Louisiana Purchase Exposition in St. Louis in 1904 ; eighty coins from Palestine and Phœnicia ; and a valuable collection of Syriac manuscripts.

These manuscripts are from the library of Professor James Rendel Harris of England, a specialist in Syriac study, and were collected by him during a period of many years. They number one hundred and twenty-five, and are in an excellent state of preservation. They are mainly Biblical and theological in character. Some are modern copies of important works and others are several centuries old. In size they vary from 18 × 14 inches to the page down to 2 × 1½ inches, the last-named size being that of a copy of the Psalter in diminutive script. Some of the manuscripts consist of a few leaves from old volumes, others contain many hundred pages, and not a few are beautiful specimens of Syriac writing. Three of the manuscripts have been temporarily retained by Professor Harris for further study and for publication, the work being already well advanced at the time of the purchase.

A note appended to Professor Harris's catalogue of the manuscripts describes them as follows : “ Most of these are superbly bound by Wilson of Cambridge (Eng.), and it will be seen that they range over the whole period of Syriac literature, and contain examples of all the great writers. Many of the mss. were acquired at great cost, and where the originals could not be purchased, no expense has been

spared upon the production of good transcripts. The amount of *inedita* in the collection is very great, in spite of the fact that a number of scholars have had access to the collection, such as Professor Margoliouth (No. 42), Dr. Dietrich (No. 65), Mrs. Gibson (No. 91, 130), Rendel Harris (No. 85, 91), and others. There is work for many more Syriac students in the volumes whose titles are given in the foregoing summary."

There is probably not another such collection in private hands. Good old Syriac manuscripts are now scarce and difficult to acquire, and have already largely passed into the possession of the great libraries of Europe. Our Museum is therefore particularly fortunate in being able to buy Professor Harris's collection. Part of the purchase money was provided by a special contribution from Mr. Schiff, without which we could not have acquired the manuscripts.

The expenditure just described has nearly exhausted the monies held for accessions to the Museum, and it is most desirable that the treasury should be replenished. Gifts would be welcome, either for immediate use or for endowment. Donors may, if they choose, designate the special kinds of purchase to which they wish their gifts applied.

The will of the late Jacob H. Hecht of Boston leaves to the Museum the sum of \$5,000; the gift is, however, not yet available. This is the first legacy for the Museum of which I have had information. In view of the usefulness of the Museum to the University and to the community Mr. Hecht's action is most gratifying and well worth imitation.

Dr. John Orne, Curator of the Arabic Manuscripts, has continued the work of cataloguing our collections.

My last report mentioned the theft of two Arabic manuscripts from the Museum in January, 1904, and the return of one of them. On June 16, 1905, the second was returned.

The importance of exploration in the Semitic field has often been emphasized in these reports. It gives me unusual satisfaction to report that provision has now been made for this object, thanks to the munificence of Mr. Schiff, who has given \$5,000 for preliminary expenses, including equipment, and offers to provide \$10,000 a year for five years. The President and Fellows have appointed a Committee on Exploration in the Orient, who are charged with the supervision of the work.

The Committee have been fortunate in securing the services of Dr. George A. Reisner, whose experience of six years in charge of the Hearst Expedition in Egypt has given him a high rank among

explorers. The President and Fellows have appointed Dr. Reisner to be Director of the expedition for the Museum.

Palestine is the field in which it is proposed to dig, provided, of course, permission is granted by the Turkish authorities. Application for permission is often attended by tedious delays. Special pains have been taken to show to the authorities that we mean to respect the letter and the spirit of the Turkish law regarding antiquities. This law, like that of Greece and Italy, strictly prohibits the exportation of antiquities. It is designed by this law to build up the Imperial Ottoman Museum at Constantinople, under the control of His Excellency Hamdy Bey, already one of the great Oriental museums of Europe.

The law allows the explorer to have photographs, casts when feasible, duplicates under certain restrictions, and the right to publish the results of his work. While the authorities thus promise nothing of consequence in advance, the collection of Babylonian treasures in the Philadelphia Museum shows that they sometimes put a generous construction on the law.

In view of the strictness of the law the conscientious explorer working in Turkish territory must be moved by a higher motive than the acquisition of museum specimens. That motive is found in the hope of clearing up some of the many obscure points in Semitic history and life. This is true in an eminent degree of exploration in Palestine, on account of the extraordinary interest attaching to that country as the home of one of the greatest of the Semitic peoples and the source of three great religions.

At first glance it seems strange how little exploration has been done in Palestine compared with what has been done in Egypt, Babylonia, and Assyria. The reason doubtless is that exploration in Palestine has yielded no such startling results as in the countries named. The discovery of temples and palaces filled with works of art, and of great libraries, is hardly to be expected in Palestine. That land was never so far advanced as these other countries in material civilization. But so great has been its influence in history that we may well be content with discoveries of a more modest nature.

If permitted to dig at a favorable site in Palestine, we believe that we are equipped to do a piece of work more thorough and on a larger scale than has yet been attempted in that land. While anticipating no results of a startling nature, we are not without hope that the hand of time has spared objects of great importance to be revealed through the Harvard Palestinian Expedition.

DAVID G. LYON, *Curator.*

THE FOGG ART MUSEUM.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR,—I have the honor to submit the following report on the Fogg Art Museum for the year 1904–05.

Our accessions are as follows : From Mr. E. W. Forbes, '95, three drawings by J. M. W. Turner ; four early Italian tempera paintings on panel, — a Madonna and Child with Angels, attributed to Spinello Aretino ; one of the same subject attributed to Taddeo di Bartolo ; an Adoration of the Magi, which appears like the work of Cosimo Tura ; a St. Jerome, by Matteo da Siena ; and one oil painting, a portrait of a Cardinal, attributed to Scipio Gaetano, a Roman painter of the sixteenth century. In addition to these, Mr. Forbes has sent us two ancient marble heads, and an ancient Greek marble grave relief. From Mr. James Loeb, a collection of fragments of Arretine moulds, including specimens of the ware, and three early Greek tripods.

To the print collections the following additions have been made :— To the Gray Collection, by purchase out of the income of the Gray Fund, Calvary, a woodcut by Dürer ; Prophet Jeremiah, a copper-plate engraving of the Baldini-Botticelli series ; and a reproduction of the *Hypnerotomachia Poliphili* of 1499. To the Museum Collection : Rivers of England, 18 prints (engraved in mezzotint after designs by J. M. W. Turner), by J. Bromley, T. Lupton, G. H. Phillips, S. W. Reynolds, W. Say, and C. Turner, a gift from Miss Elizabeth G. Norton. A portfolio of 40 prints, engraved in mezzotint and stipple. These are facsimiles of engravings by James Ward and William Ward, an anonymous gift ; a portrait of President Eliot, etched by Sidney L. Smith ; a portrait of Elias Boudinot, by Waldo and Jewett, engraved by A. B. Durand ; a portrait of Sir Leslie Stephen, by G. A. Watts, reproduced in photogravure ; *Nuova raccolta di cinquanta motivi pittoreschi e costumi di Roma*, — etchings by Bartolommeo Pinelli, gifts from Professor C. E. Norton ; and two prints of landscapes by an unknown engraver, given by Professor M. H. Morgan.

To the collection of photographs only 96 additions were made during the year. These comprise : Mediaeval French Architecture (including three photographs given by Professor Norton), Etruscan

Sculpture, Ancient Greek Architecture and Sculpture, Excavations in Crete, Flemish, Dutch, German, English, and Spanish painting. To the collection of slides there were 185 additions, comprising Mediaeval Italian and French Architecture, Renaissance Italian Architecture, Egyptian, Assyrian, Greek, and Roman Architecture and Sculpture, Ancient painting, Excavations in Crete, Italian, Flemish, Dutch, and German painting. Three slides were given by Professor John H. Wright.

The following additions have been made to our small Museum library: By purchase with the income of the Searle Fund, Catalogue of Early German and Flemish Woodcuts, Vol. I; Catalogue of Greek Sculpture, Vol. III; Catalogue of Terracottas; Catalogue of Vases, Vol. II; Catalogue of Bronzes; Catalogue of Early German and Flemish Prints, Vols. I and II; Catalogue of Playing-Cards; Catalogue of the Schreiber Playing-Cards; Introduction to a Catalogue of Early Italian Prints. These are all British Museum publications, and are not merely catalogues, but also important treatises on the respective subjects. Other books purchased with the income of the Searle Fund are: James McArdell, by Gordon Goodwin; Guide to Casts in the Ashmolean Museum; Bryan's Dictionary of Painters and Engravers, Vols. IV and V (new edition). By purchase with the income of the Prichard Fund, *Klassiker der Kunst*: Raffael, 1 vol., Rembrandt, 1 vol., Tizian, 1 vol., Dürer, 1 vol., Rubens, 1 vol., and Catalogue of the Ryks Museum, Amsterdam. From the Library of Congress we have received the Catalogue of the Gardiner Greene Hubbard Collection of Engravings, and the American Library Association Catalogue; from Mr. Francis Bullard, '86, Catalogue of a Memorial Exhibition of the Works of James McNeill Whistler, and a Catalogue of the Exhibition of the *Liber Studiorum* of J. M. W. Turner, held in the Boston Museum of Fine Arts; from the Trustees of the Boston Museum of Fine Arts, the following Catalogues of Exhibitions held in the Print Department of that Museum: American Etchings, American Engravings on Wood, the Etched Work of Rembrandt, the Work of Women Etchers, Dürer's Engravings, Etchings by Seymour Haden, American Book-Plates, Turner's *Liber Studiorum*, and Work of J. and S. W. Cheney; from Professor C. E. Norton, Cicognara's *Memorie Spettanti alla storia della calcografia*; from an anonymous giver, William Ward and James Ward, by Julia Fraukau; and from Miss Grace Norton, Domenico Morelli, by A. R. Willard. The following books have been purchased with the income of the Randall Fund: *Manuel de l'Amateur d'Estampes*, Vols. I, IV-VI, by Eugène Dutuit, accom-

panied by a portfolio of 37 prints, including reproductions from the following block-books: *Ars Moriendi*, *Biblia Pauperum*, *Apocalypse*, *Canticum Canticorum*, and *Exercitum super Pater Noster*. The following books have also been added: *Harvard Quinquennial Catalogue*; and *A Critical Investigation of the so-called Velasquez in the Boston Museum of Fine Arts*, by Mrs. N. H. Pringsheim.

Our accessions for the year are thus considerable, as well as valuable, and some of them are of highest value. The drawings by Turner are early works. One is a view of Ehrenbreitstein in water-color wash, and belongs to the period of the master's early maturity. The others are both of the same subject, an old boat in foreshortened perspective, with a picturesque background, one of them being in lead-pencil, and the other in neutral wash. They are all fine examples of Turner's power in delineation, and in the frank, economical, and expressive use of transparent water-color, and they admirably supplement our fine series of Turner drawings which, including Mr. Bullard's beautiful *Tintagel*, now on temporary deposit, is, I believe, without any parallel elsewhere in the country. The large panel attributed to Spinello Aretino (1332-1410) is an excellent example of Italian painting of a time much earlier than that to which our other Italian panels belong, and affords instructive illustration of the art of the followers of Giotto. This panel is in good condition, and we are trying the experiment of exhibiting it without a glass, which the condition of most Italian panels renders necessary in our climate. The so-called Taddeo di Bartolo (1363-1436) appears to be in good condition. The work attributed to Matteo da Siena (1435-1495) shows much of what is characteristic of that master, though it does not do justice to his finer powers of feeling and expression. It has suffered little, if at all, from repainting. The small picture which may be by Cosimo Tura (1432-1495) has considerable resemblance in style and handling to the works of Mantegna by whom Tura was strongly influenced. The large oil portrait of a Cardinal by Gaetano (1550-1588), though not an example of finest Italian painting, has a good deal of historic value, and some excellent qualities of execution. Of the two marble heads, one is a very good specimen of later Greek art, and the grave relief is a fine work of its kind, and well illustrates the high degree of excellence in sculpture that was attained by ordinary carvers working under the influence of greater masters. The Arretine moulds and vase fragments are rare and beautiful specimens of a kind of ancient pottery that was peculiar to the locality where it was produced, and of which the supply is now practically ex-

hausted. The Greek tripods belong to a class of works that are not often met with, and are among our most valuable accessions. They were found broken into many fragments which are now being put together, and when this work is completed two of them are to be lent for one year to the Metropolitan Museum of New York.

Photographs were lent 235 times to the Department of Architecture and other departments of the University, to Radcliffe College, and to various outsiders. Slides were lent 158 times to the Department of Architecture, to Radcliffe College, and to various outsiders.

The number of general visitors using photographs in the Museum was less than in other recent years. Of visits by such persons 540 were by members of the University, and 359 by outsiders. But the use of photographs by students of the University in the regular Fine Arts courses has greatly increased. This is clearly due to the new system of conferences in the larger courses. Students in these courses now work here constantly, whereas formerly they rarely visited the Museum save during a few days just before each examination. This is, of course, the kind of use that is most to be desired, and under this system the Museum is now for the first time fully performing its true function. The number of general visitors of whom no record is kept continues about as in former years.

The total number of visits to the print collection for examination of prints in the storage cases was 391, and of these 328 were by members of the University, for the most part students in the course on the History and Principles of Engraving. Of general visitors to the Print-room no record is kept.

An exhibition of nineteenth century engravings, lent by Mr. Francis Bullard, was held in the Print-room from October to March. During the spring months an exhibition of early German and Dutch prints, prints from the plates of Turner's *Liber Studiorum*, and seventeenth century prints, all belonging to our collections, was made, and in the month of April was added to these a series of mezzotint engravings by David Lucas after Constable, lent by Mr. Bullard.

During the year 2639 photographs and 182 slides were catalogued, and a chronological list of painters was made.

In the Print Department 1247 prints were catalogued, and the list of engravings by designers (which, for the Gray Collection, had been completed in the year 1899-1900) is now being extended to include the prints of the Randall Collection. When finished, this list will show what prints these collections contain from the works of any given artist. It will give, also, the name of the engraver in

every instance, as well as the location of every print in the storage cases. Work has also been done on a list of portraits, and a list indicating the different states of plates in the collection of which we have more than one state.

The number of photographs mounted was 3172, and the number of prints mounted was 67.

Photographs and prints have been mounted, and other mechanical work has been done, for various outsiders, for which we have received the sum of \$56.93, which has been paid over to the Bursar to be credited to the Museum.

Since we can no longer charge expenses for furniture and fixtures to the Fogg endowment fund we are unable to provide cases for new accessions of photographs. These accessions have accumulated so that we now have more than 4,000 of them, mounted, and for the most part catalogued, standing in piles on the tops of the old cases, where they must remain practically inaccessible to students until cases can be provided. The need for these cases is therefore urgent. We also need additional shelf room for books.

It is to be hoped that our standing need for suitable additions to the building affording proper light for our growing, and already important, collections of original works in ancient sculpture, vases, bronzes, and Italian painting, may before long be met.

I would again call attention to the fact that collections of objects of art are increasing in various departments of the University, and that economy of administration, as well as convenience of use, would seem to require that these should be, as far as practicable, brought together. The Fogg Museum is the natural depository of all objects of this kind which have importance as works of art.

CHARLES H. MOORE, *Director.*

THE GERMANIC MUSEUM.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—The most important object added to the Germanic Museum during the academic year 1904–05 is the reproduction, in concrete, of a sandstone slab from the tomb of Ulrich, Baron of Regensburg (+ c.1280), a gift of Dr. Heinrich Angst of Zürich, former director of the Swiss National Museum. In 1903, when the last remnants of the old fortifications of Zürich were torn down, this slab was found imbedded in one of the towers, face down, serving as the lower shelf of an embrasure. Apparently, it had been carried thither in the sixteenth century, when the interior of the Church of the Barefooted Augustinians, its original receptacle, was partly demolished and largely used as building material for secular purposes. Through the rounding off of one of its longer sides, so as to conform its shape to the round wall of the tower, the slab lost part of its inscription. Otherwise it has not suffered from the vandalism to which it was subjected. It shows engraved upon it, in the manner of the *niello* technique, the standing, somewhat over-life size figure of a mediaeval nobleman, bareheaded, with long curly hair, in tunic and mantle, his shoes pointed, pressing the sword with his right hand to his right hip, with the left hand drawing the string of his mantle forward. The figure is remarkable for its freedom, gracefulness, and sweep of outline. The inscription reads:—

SEPVLT' DNS' . VLRIC' . DE REGENSBERG . QVI . OBIIT A . . .

Unquestionably it refers to a member of the baronial family of Regensburg, which, in the latter part of the thirteenth century and the beginning of the fourteenth, played an important part in Zürich history.

Another important addition to our collection is a figure of a Roman soldier, with reproductions of arms, from the Römisch-Germanisches Museum at Mainz, a gift of Mr. Henry W. Putnam of Boston. The statue is a companion figure to the Frankish warrior from the same Museum, and is intended to bring to view the equipment of the Roman troops fighting on German territory in the first century. Its value for our Museum will be fully seen only when it can be exhibited as a supplement to a representative collection of Roman arms found on German soil—a collection which might be

procured from the Mainz Museum, if we had money to acquire it or space to exhibit it.

Among the money contributions received by the Germanic Museum Association for the maintenance of the Museum are the following :

\$10, from Mr. C. W. Ernst of Boston.

\$675, the proceeds of a performance given by Mr. Heinrich Conried of New York for the benefit of the Museum.

\$100, the proceeds of a Schiller centennial celebration given by the Orpheus Musical Society of Boston.

The present balance at the disposal of the Germanic Museum Association amounts to \$1480. The Museum was open to the public throughout the year on two week days and — owing to a generous provision made by the same anonymous donor who provided for this purpose last year — on Thursday and Sunday afternoons. It was visited during that time by 23,057 persons, an increase of 2,011 over the preceding year. On Commencement Day the President of the United States inspected the Museum, and subsequently sent a cable message to the German Emperor expressing his appreciation of the Emperor's splendid gifts.

During the summer, the Curator, while on his vacation in Europe, entered into negotiations with various state governments and city administrations, with a view toward further contributions to the Museum from official sources. These negotiations have since resulted in the definite promise of the Swiss Government to give to the Germanic Museum a full size reproduction of one of the most remarkable works of mediaeval Swiss sculpture: the great sepulchral monument of La Sarraz (fourteenth century). Owing to the large size and the elaborate composition of this monument, it will be reproduced and sent hither in instalments, so that it will be several years before it can be set up here — a fact which, in view of the cramped condition of our present building, is not greatly to be deplored. It should be added that this monument is at present not to be seen in any Museum in Europe. Negotiations with other governments are still pending; but there seems good reason to believe that their outcome will be favorable, and that important gifts will come from a number of German states and cities. These prospective gifts make still more evident the pressing need of a suitable building, set forth in my last report.

Indeed, it may without exaggeration be said that the worthy housing of the objects already in our possession and the rounding out of the Museum into a comprehensive conspectus of the history

of Germanic culture — a task for which the sum of \$500,000 would be needed — is getting to be a question of national importance. The magnificent gifts by the German Emperor, which were installed two years ago, have since been followed by a remarkable series of other demonstrations of German good will toward America. I need only mention the presentation to our Museum of a unique and costly collection of reproductions of ancient German gold and silver ware, brought together by popular subscriptions extended throughout Germany; the gift to the Social Museum of Harvard University of the larger part of the German social exhibit at the Universal Exposition of St. Louis; the exchange of professors between German and American universities, so happily inaugurated through the activity of Professor Ostwald at Harvard University and through the invitation of Professor Peabody to Berlin and the gracious reception given to him by the German Emperor as well as by the university authorities.

The importance of these impressive demonstrations of German good will toward America is obvious. They prove that Germany is ready to enter into still closer relations of mutual confidence and helpfulness with the United States than exist even now. They show that Germany welcomes the coöperation and the competition of the United States in all national activities — industrial, intellectual, and artistic — which tend to promote the welfare, the liberty, and the brotherhood of human kind. The time seems to have come to demonstrate by appropriate action that the American people appreciate and reciprocate the spirit which has manifested itself in these friendly acts of the German Emperor and people. And what better way could be found to erect a lasting and appropriate monument of German-American friendship than by endowing that institution which first attracted the generous attention of the German government, and which is destined to be not only a storehouse of the great artistic productions of the Germanic past, but also a connecting link between modern Germany and modern America — the Germanic Museum of Harvard University?

KUNO FRANCKE, *Curator*.

RADCLIFFE COLLEGE.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR, — As Dean of Radcliffe College, I have the honor to submit my report for the academic year 1904-05.

The number of students in actual attendance during the year was 416, as against 458 during the preceding year.

Graduate Students	56
Seniors	61
Juniors	47
Sophomores	94
Freshmen	78
Special Students	85
Total	416

At Commencement in June, 1905, seventy-three students, two of whom had completed their residence in an earlier year, received the degree of Bachelor of Arts. Ten students, who had not been registered as Seniors, received the degree. Of the seventy-three successful candidates, one received the degree *summa cum laude*; seventeen received it *magna cum laude*; twenty-seven, *cum laude*.

Nineteen candidates received the degree of Master of Arts. Thirteen of the nineteen had taken their first degree at Radcliffe, the others represented the following colleges: Allegheny College, Boston University, Hollins Institute, Mt. Holyoke College, Smith College, University of South Dakota.

The degree of Doctor of Philosophy was conferred upon Eleanor Harris Rowland, A.B. Radcliffe 1903, A.M. 1904, who took her degree in the special field of Psychology. Her thesis was on "The Aesthetics of the Repetition of Visual Space-Forms." To this thesis was awarded the Wilby Prize for 1905.

Examinations for admission were held in June, 1905, in Cambridge, Andover, Bonn (Germany), Brookline, Concord (N. H.), Exeter (N. H.), Lynn, Milton, Omaha (Neb.), Portland (Me.), Quincy, South Byfield, Springfield, and Youngstown (Ohio). They were also held in September in Cambridge. Two hundred and ninety-eight candidates presented themselves for examination, two of whom did not complete their examination. Eleven were candi-

dates for admission as Special Students; sixty-nine candidates took part of the examination or worked off admission conditions; one hundred and fifteen took the Preliminary Examinations, and one hundred the Final Examinations. One postponing candidate was rejected.

The results of the Final Examinations are given in the following table:—

	Admitted.	Admitted "Clear."	Rejected.
June	81	30	5
September	14	1	
Total	95		
Total rejected . . .	5		
	100		

Ninety-five candidates were admitted as Freshmen in 1905, as against ninety-six in 1904.

Fifty-six Graduate Students registered during the year, thirty-two of whom were from other colleges. Thirty-one students were admitted to nineteen full courses, and ten students to nine half-courses, of the "Courses primarily for Graduates in Harvard University open to competent Students of Radcliffe College."

The members of the Academic Board for 1904-05 were: Professor Byerly (Chairman), and Professors E. L. Mark, S. M. Macvane, H. S. White, J. H. Wright, E. H. Hall, H. C. G. von Jagemann, G. L. Kittredge, C. H. Grandgent.

The Caroline I. Wilby Prize, which was this year awarded to Dr. Rowland for her thesis, was intended as a recognition of advanced work done by women beyond the undergraduate age, and, though withheld for several years, has now been awarded for the sixth time. Miss Herron's thesis on "The Progress of Labor Organization among Women," which won the prize in 1904, has been published by the University of Illinois.

A Fellowship for the year 1905-06 has been given by Lucy Allen Paton, "as a recognition of scholarship and character," to be held by a Graduate Student. The Fellowship has been awarded to Muriel Bothwell Carr, A.B. (McGill) 1898, A.M. (ibid.) 1900, A.M. (Radcliffe) 1902.

The South End House Fellowship, established by Miss Annette P. Rogers in 1903 for a period of two years, has been renewed by her, and the Fellowship awarded to Theresa Sylvia Haley, A.B. 1904, who is studying under the direction of Professor W. Z. Ripley.

At the time that I had the honor of submitting to you my last report, the Radcliffe Auxiliary had in hand a great piece of work,

the attempt to secure for Radcliffe College the Greenleaf estate, a fine bit of land directly opposite the Radcliffe grounds, and deemed by good judges of great importance to the future of the College. The price set by the owners was \$80,000 for the estate as a whole, including the Greenleaf house and two smaller houses on Ash Street. The Auxiliary in a few months raised the sum of \$67,000, purchased the Greenleaf house and 74,300 square feet of land for \$63,500, and secured an option on the Ash Street houses, which are needed to round out the corners of the property. The option expires in April, 1907. Some money to complete the purchase is already in hand, about \$4,500, and it is hardly likely that the remaining sum will not be forthcoming in time.

The Students' building — to be known as Elizabeth Cary Agassiz House — was completed in time for the Class Day and Commencement festivities in June. The house stands at the corner of Mason and James Streets, next to the Radcliffe Gymnasium. It is a beautiful and impressive building in the colonial style, and "composes" admirably with the Gymnasium, as it was intended to do. It contains locker-rooms, club-rooms, rooms for rest and for study, a reading-room, a large dining-room, kitchen and housekeeper's room, a lecture-room which makes a charming little theatre, and a great living-room which has already proved its right to be called "the heart of the house." The dining-room provides daily a good and economical luncheon for about 165 students (the maximum has been 185); the theatre gives an opportunity to bring together the student-body, — an opportunity sadly lacking for many years; in short, for the first time in the history of the College, the health and comfort of the students are adequately provided for, and the various needs of a large day-college are perfectly fulfilled. The need of such a building has been keenly felt for many years by the students, and by their friends, and on Mrs. Agassiz's eightieth birthday, December 5, 1902, more than the money required for the purpose was offered to Radcliffe College in her honor, with the request that the building might bear her name. To the architect of Agassiz House, Mr. A. W. Longfellow, and to two members of the Building Committee, Mrs. Whitman and Mrs. Farlow, the beauty and appropriateness of the building are due, and to them, as to the many friends who have shown their interest and generosity in various ways, Radcliffe is grateful. Among these friends should be specially mentioned the builder, Mr. F. L. Whitcomb. The portrait of Mrs. Whitman given by Mrs. Kuhn, and the memorials of her life and work, described in detail in the report for 1903-04, have been placed in the house,

where, with the possible exception of the window which was Mrs. Whitman's last work, they will permanently remain.

Three of the buildings which were deemed essential to the well-being of Radcliffe, — the Gymnasium, a Hall of Residence, and the Students' House, — have been secured to us; the fourth, a Library adapted to the special needs of the College, will probably soon be ours. To most of the alumnae and undergraduates a Library has seemed the first need of the College, and the Radcliffe College Alumnae Association had taken the first steps toward raising a fund for a Library, when Mr. Andrew Carnegie offered to give \$75,000 for a building, on condition that the friends of Radcliffe should raise an equal sum as new endowment. This offer was accepted by the Council, and it is hoped that the sum which now amounts to \$55,000 will soon be completed. The alumnae have undertaken to provide \$20,000 for the furnishings, and they have already made a good beginning.

Among the gifts of the year we reckon the addition of \$2,500 to the fund of \$2,500 given by the Cantabrigia Club for a scholarship, making a full scholarship; a bequest of \$5,000 from James A. Woolson, of Cambridge, which will be used to establish a scholarship for a student in the Classics; and a bequest of \$10,000 from Sarah W. Whitman, to establish two full scholarships, to be known as the Mary Eliot Parkman Scholarship and the Abby W. May Scholarship. Under the will of Sarah W. Whitman, Radcliffe has also received the large sum of \$100,000. The sum total of the money actually received during the year amounts to rather more than \$184,750. Mrs. Whitman's bequest is unrestricted, and it would go far towards the establishment of the fund for instruction, if the College were at this moment able to devote it to that purpose. This large unrestricted fund of half a million is the prime need of Radcliffe.

The future is full of hope. The rise in the number of students during the current year, as against the losses last year; the admirable quality of the graduate students; the constancy and generosity of our friends; the energy, enthusiasm, and devotion of our alumnae; — these are among the grounds for encouragement. The losses for the year have been of the inevitable kind brought by time to mortals. There have been three resignations from the Council: Professor Clement L. Smith and Miss Longfellow, both from ill-health, and Mrs. Farlow, from the pressure of other duties. These are serious losses. Each one of these has been associated with Radcliffe from the earliest days of the Annex, and their judgment, wisdom, and

devotion have gone far to make the College what it is. Mr. Henry L. Higginson has also resigned his position as Treasurer, a step which he has long thought he must take, on account of his heavy responsibilities and the endless demands on his time and strength and public spirit. His resignation took effect on September 1, 1905, and Mr. Ezra Henry Baker, an Associate of Radcliffe College, who had acted for some years as Assistant Treasurer, has been elected to the Treasurership. The other vacancies in the Council have not as yet been filled. It is a difficult task to find successors to men and women in whom the community have had perfect confidence and with whom it has been an honor and a distinction to serve.

AGNES IRWIN, *Dean*.

APPENDIX.

DEATHS.

[During the year beginning September 1, 1904.]

- GEORGE FRISBIE HOAR, Overseer. September 30, 1904.
JOSEPH TRUMBULL STICKNEY, Instructor in Greek. October 11, 1904.
EDWARD STICKNEY WOOD, Professor of Chemistry. July 11, 1905.
ARTHUR DICKINSON WYMAN, Assistant in Chemistry. September 29, 1904.
-

RESIGNATIONS.

[To take effect September 1, 1905, unless otherwise stated.]

- ARTHUR KINNEY ADAMS, Assistant in Geology. October 2, 1905.
KILBURN ELIE ADAMS, Assistant in Mechanical Engineering. June 27, 1905.
HARRY MORGAN AYRES, Assistant in English. June 27, 1905.
AUGUSTUS SAMUEL BEATMAN, Assistant in Education and in History, to take effect February 13, 1905. February 13, 1905.
JAMES MACKINTOSH BELL, Proctor. January 9, 1905.
JAMES MACKINTOSH BELL, Austin Teaching Fellow in Mining and Metallurgy, to take effect December 31, 1904. January 9, 1905.
CARLETON FAIRCHILD BROWN, Instructor in English. June 27, 1905.
PHILIP GREENLEAF CARLETON, Instructor in English. September 26, 1905.
JOHN FELT COLE, Instructor in Astronomy, to take effect December 1, 1904. November 28, 1904.
CHARLES ALLERTON COOLIDGE, Lecturer on Architectural Design. September 26, 1905.
VANDERVEER CUSTIS, Assistant in Economics. June 27, 1905.
JOHN IRVING ESGATE, Instructor in Mechanical Dentistry. September 26, 1905.
JAMES AUGUSTUS GEORGE, Proctor. October 10, 1904.
JESSE MORE GREENMAN, Instructor in Botany, to take effect at the end of the current academic year. May 8, 1905.
FRITZ HAGENS, Instructor in German. June 27, 1905.
ARTHUR STEARNS HAWKS, Assistant in Engineering, to take effect May 1, 1905. May 8, 1905.
HIBBERT WINSLOW HILL, Instructor in Bacteriology. October 9, 1905.
PERCY HODGE, Assistant in Physics. October 2, 1905.
RICHARD FAY JACKSON, Assistant in Chemistry. October 9, 1905.
HARRIE STUART VEDDER JONES, Assistant in English. June 27, 1905.
GEORGE WILLIAM LOW, Assistant in Geology. June 5, 1905.
ROLLO LU VERNE LYMAN, Instructor in Public Speaking. November 13, 1905.
GEORGE BURGESS MAGRATH, Assistant in Pathology. October 9, 1905.

- JAMES AMBROSE MOYER, Instructor in Descriptive Geometry, to take effect February 13, 1905. February 13, 1905.
- CHAUNCEY WILLIAMS NORTON, Assistant in Anatomy. September 26, 1905.
- RALPH WALTER PAGE, Proctor. February 13, 1905.
- JOHN KNOWLES PAINE, Professor of Music. May 22, 1905.
- CHARLES ERNEST PERKINS, Instructor in Operative Dentistry. October 30, 1905.
- THOMAS NELSON PERKINS, Graduate Member of the Committee on the Regulation of Athletic Sports. March 27, 1905.
- FRANCIS SAMUEL PHILBRICK, Instructor and Assistant in Government, to take effect November 1, 1904. October 31, 1904.
- AMON BENTON FLOWMAN, Assistant in Botany. October 9, 1905.
- WALDO BRUCE RUSSELL, Auditor of the Randall Hall Association. October 9, 1905.
- HOWARD EDWIN SIMPSON, Assistant in Physiography and Meteorology. September 26, 1905.
- MACY MILLMORE SKINNER, Instructor in German. September 26, 1905.
- CLEMENT LAWRENCE SMITH, Pope Professor of Latin, to take effect November 1, 1904. October 31, 1904.
- KENDALL KERFOOT SMITH, Assistant in Fine Arts. November 27, 1905.
- OLIVER MITCHELL WENTWORTH SPRAGUE, Assistant Professor of Economics. September 26, 1905.
- HENRY LEROY STONE, Assistant in Music. September 26, 1905.
- THOMAS HEAD THOMAS, Austin Teaching Fellow in Fine Arts. October 30, 1905.
- HENRY SMITH THOMPSON, Officer in charge of Admission Examinations, to take effect June 1, 1905. October 30, 1905.
- ROBERT PALFREY UTTER, Assistant in English. June 27, 1905.
- CHARLES FRANCIS WITHINGTON, Instructor in Clinical Medicine, to take effect February 1, 1905. February 13, 1905.
- FREDERICK SHENSTONE WOODS, Lecturer on Mathematics. November 13, 1905.

APPOINTMENTS.

FACULTY OF ARTS AND SCIENCES.

[Without limit of time, or for more than one year.]

- OAKES AMES, Assistant Director of the Botanic Garden for five years from September 1, 1904. May 1, 1905.
- GEORGE PIERCE BAKER, Professor of English from September 1, 1905. May 1, 1905.
- GREGORY PAUL BAXTER, Assistant Professor of Chemistry for five years from September 1, 1905. May 1, 1905.
- HEINRICH CONRAD BIERWIRTH, Assistant Professor of German for five years from September 1, 1904. November 28, 1904.
- THOMAS NIXON CARVER, David A. Wells Professor of Political Economy. February 13, 1905.
- JOHN HAYS GARDINER, Assistant Professor of English for five years from September 1, 1905. May 1, 1905.

- EDWIN BISSELL HOLT, Assistant Professor of Psychology for five years from September 1, 1905. May 1, 1905.
- EDWARD VERMILYE HUNTINGTON, Assistant Professor of Mathematics for five years from September 1, 1905. June 5, 1905.
- ALBERT MORTON LYTGOE, Instructor in Egyptology from September 1, 1905. May 22, 1905.
- LIONEL SIMEON MARKS, Assistant Professor of Mechanical Engineering for five years from September 1, 1905. May 1, 1905.
- ROGER BIGELOW MERRIMAN, Instructor in History from September 1, 1905. March 13, 1905.
- CLIFFORD HERSCHEL MOORE, Professor of Latin from September 1, 1905. May 22, 1905.
- WILLIAM LUTHER MOWLL, Assistant Professor of Architecture for five years from September 1, 1905. June 12, 1905.
- ARTHUR ORLO NORTON, Assistant Professor of the History and Art of Teaching for five years from September 1, 1905. June 27, 1905.
- THOMAS NELSON PERKINS, Fellow. March 8, 1905.
- RALPH BARTON PERRY, Assistant Professor of Philosophy for five years from September 1, 1905. March 27, 1905.
- JAMES STURGIS PRAY, Assistant Professor of Landscape Architecture for five years from September 1, 1905. June 5, 1905.
- EDWARD KENNARD RAND, Assistant Professor of Latin for five years from September 1, 1905. February 20, 1905.
- WALLACE CLEMENT SABINE, Professor of Physics from September 1, 1905. May 1, 1905.
- WALTER DANA SWAN, Instructor in Architecture from September 1, 1905. June 12, 1905.
- HENRY AUGUSTUS TORREY, Assistant Professor of Chemistry for five years from September 1, 1905. May 1, 1905.
- JOHN ALBRECHT WALZ, Assistant Professor of the German Language and Literature for five years from September 1, 1905. February 13, 1905.
- ROBERT DECOURCY WARD, Assistant Professor of Climatology for five years from September 1, 1905. May 1, 1905.
- MINTON WARREN, Pope Professor of Latin from September 1, 1905. May 22, 1905.
- EDGAR HUIDEKOPER WELLS, Assistant Dean of Harvard College from June 1, 1905. June 5, 1905.
- CHARLES HENRY WHITE, Assistant Professor of Mining and Metallurgy for five years from September 1, 1905. May 1, 1905.
- STEPHEN EDGAR WHITE, Instructor in Electrical Engineering from September 1, 1905. May 1, 1905.
- ROBERT MEARNS YERKES, Instructor in Psychology from September 1, 1905. June 5, 1905.

[For 1904-05.]

- JOHN MEAD ADAMS, Assistant in Physics. October 10, 1904.
- KILBURN ELIE ADAMS, Assistant in Mechanical Engineering for the remainder of the current academic year. May 1, 1905.
- AUGUSTUS SAMUEL BEATMAN, Assistant in History. October 10, 1904.
- AUGUSTUS SAMUEL BEATMAN, Assistant in Education. October 31, 1904.
- WINTHROP BELLAMY, Assistant in Chemistry. October 3, 1904

- HIRAM BINGHAM, Jr., Austin Teaching Fellow in History. October 31, 1904.
JOHN HAMILTON BLAIR, Assistant in History. October 10, 1904.
WILLIAM CHARLES BRENKE, Austin Teaching Fellow in Astronomy. November 28, 1904.
FRANCIS NEWTON BRINK, Assistant in Chemistry. October 10, 1904.
JAMES BRYCE, Godkin Lecturer. September 27, 1904.
LEO LEGAY BURLEY, Assistant in History. October 3, 1904.
HAROLD CANNING CHAPIN, Assistant in Chemistry. October 3, 1904.
MINTIN ASBURY CHRYSLER, Assistant in Botany. October 31, 1904.
LATHAM CLARKE, Assistant in Chemistry. October 10, 1904.
SAMUEL MCCORD CROTHERS, Ingersoll Lecturer on the Immortality of Man. November 14, 1904.
PAUL REVERE CURTIS, Austin Teaching Fellow in Mining and Metallurgy, from January 1, 1905, for the remainder of the current academic year. February 20, 1905.
VANDERVEER CUSTIS, Austin Teaching Fellow in Economics. October 31, 1904.
IRVING ANGELL FIELD, Assistant in Zoölogy. November 28, 1904.
EMERSON DAVID FITE, Austin Teaching Fellow in Government. October 3, 1904.
HARRY LOUIS FREVERT, Austin Teaching Fellow in Chemistry. October 10, 1904.
EDMUND CARL FROEHLICH, Instructor in Mathematics for the second half-year. February 13, 1905.
JAMES ANDREW GIBSON, Assistant in Chemistry. October 10, 1904.
JAMES ABRAHAM GOLDTHWAITE, Assistant in Chemistry. October 3, 1904.
JESSE MORE GREENMAN, Assistant at the Gray Herbarium. September 27, 1904.
ROGER CASTLE GRIFFIN, Austin Teaching Fellow in Chemistry. October 31, 1904.
ERNEST HERMANN PAUL GROSSMANN, Instructor in German. September 27, 1904.
CHAUNCEY CRAVEN HACKETT, Assistant in English. October 31, 1904.
ARTHUR STEARNS HAWKS, Assistant in Engineering for the second half-year. February 13, 1905.
LAWRENCE JOSEPH HENDERSON, Lecturer on Biological Chemistry. October 31, 1904.
FRANK WILSON CHENEY HERSEY, Instructor in English. October 31, 1904.
LEWIS DANA HILL, Assistant in Physics for the second half-year. January 14, 1905.
ROBERT ARNOLD HUBBARD, Assistant in Chemistry. October 3, 1904.
WILLIAM HAMMETT HUNTER, Assistant in Chemistry. October 10, 1904.
RICHARD FAY JACKSON, Assistant in Chemistry. October 3, 1904.
FRED ROBERT JOUETT, Assistant in Anatomy, Physiology, and Hygiene. October 10, 1904.
ROBERT WILSON KELSO, Assistant in English. October 31, 1904.
BURRITT SAMUEL LACY, Assistant in Chemistry. October 3, 1904.
CHESTER ARTHUR LEGG, Assistant in Economics. October 31, 1904.
FREDERICK FLEMING MCINTOSH, Austin Teaching Fellow in Ore-Dressing and Assaying. October 31, 1904.
JAMES MARTIN McNAMARA, Assistant in Chemistry. October 3, 1904.
EDWARD RUSSELL MARKHAM, Assistant in Mechanical Engineering. October 10, 1904.
SELDEN OSGOOD MARTIN, Austin Teaching Fellow in Economics. October 31, 1904.

- FRANÇOIS EMILE MATTHES, Austin Teaching Fellow in Reconnaissance Surveying. October 10, 1904.
- ERNST HEINRICH MENDEL, Lecturer on German Philology. September 27, 1904.
- ERICH MUENTER, Instructor in German. September 27, 1904.
- FREDERIC AUSTIN OGG, Austin Teaching Fellow in History. October 3, 1904.
- EDWIN WILLIAM PAHLOW, Assistant in History. October 3, 1904.
- EDMUND MORLEY PARKER, Lecturer on Comparative Administration. October 10, 1904.
- WILLIAM BELMONT PARKER, Instructor in English. October 31, 1904.
- WILLIAM JOSEPH PELO, Assistant in Education for the second half-year. February 13, 1905.
- BLISS PERRY, Lecturer on English Literature. October 10, 1904.
- ARTHUR POPE, Austin Teaching Fellow in Fine Arts. October 10, 1904.
- CYRUS GUERNSEY PRINGLE, Botanical Collector for the remainder of the current academic year. May 1, 1905.
- HERBERT WILBUR RAND, Instructor in Zoölogy. September 27, 1904.
- WILLIAM CHAUNCEY RICE, Assistant in Government. November 14, 1904.
- ARTHUR WILLIAM RYDER, Instructor in German. October 10, 1904.
- SCHUYLER B SERVISS, Austin Teaching Fellow in Physics. October 10, 1904.
- KENDALL KERFOOT SMITH, Assistant in Fine Arts. October 31, 1904.
- STANLEY ARTHUR STARRATT, Assistant in Palaeontology. September 27, 1904.
- CHARLES MINER STEARNS, Instructor in English. October 10, 1904.
- GEORGE GURDON STEELE, Assistant in Descriptive Inorganic Chemistry, from December 14, 1904, for the remainder of the academic year. March 13, 1905.
- LEROY FENWICK SWIFT, Assistant in Chemistry. October 10, 1904.
- GEORGE NICOLAS TERZIEFF, Assistant in Chemistry. October 3, 1904.
- CHARLES MARSHALL UNDERWOOD, Jr., Austin Teaching Fellow in Romance Languages. October 10, 1904.
- ROLAND GREENE USHER, Assistant in History. October 3, 1904.
- JOHN ALBRECHT WALZ, Lecturer on German Literature. October 31, 1904.
- ARTHUR FISHER WHITTEM, Instructor in Romance Languages. October 10, 1904.
- HOMER EDWARDS WOODBRIDGE, Assistant in English. October 31, 1904.

[For 1905-06.]

- ARTHUR KINNEY ADAMS, Assistant in Geology. May 1, 1905.
- JOHN MEAD ADAMS, Assistant in Physics. March 13, 1905.
- KILBURN ELIE ADAMS, Assistant in Mechanical Engineering. May 1, 1905.
- FREDERICK ARTHUR ALDEN, Assistant in Mechanical Drawing. May 1, 1905.
- OAKES AMES, Instructor in Botany. March 13, 1905.
- HARRY MORGAN AYRES, Assistant in English. March 27, 1905.
- NEWTON SAMUEL BACON, Assistant in Hygiene. March 13, 1905.
- HARRY TORSEY BAKER, Instructor in English. March 27, 1905.
- JAMES ROBERT BARCLAY, Assistant in Engineering. June 5, 1905.
- HENRI BAULIG, Instructor in Romance Languages. March 13, 1905.
- JAMES CARLETON BELL, Assistant in Philosophy. June 5, 1905.
- WINTHROP BELLAMY, Assistant in Chemistry. June 5, 1905.
- OTIS FISHER BLACK, Assistant in the Chemical Laboratory. March 13, 1905.

- HENRY COOK BOYNTON, Instructor in Metallurgy and Metallography. May 1, 1905.
- WILLIAM CHARLES BRENKE, Austin Teaching Fellow in Astronomy. April 10, 1905.
- FLETCHER BRIGGS, Austin Teaching Fellow in German. May 22, 1905.
- CARLETON FAIRCHILD BROWN, Instructor in English. March 27, 1905.
- EDWARD COGGESHALL BROWN, Assistant in Engineering. June 5, 1905.
- HAROLD CHAPMAN BROWN, Assistant in Philosophy. June 5, 1905.
- ALPHONSE BRUN, Instructor in French. March 13, 1905.
- STEPHEN HAYES BUSH, Instructor in Romance Languages. March 13, 1905.
- PHILIP GREENLEAF CARLETON, Instructor in English. March 27, 1905.
- WILLIAM RICHARD CASTLE, Jr., Instructor in English. March 27, 1905.
- FRED WAYNE CATLETT, Assistant in Government. May 1, 1905.
- HAROLD CANNING CHAPIN, Assistant in Chemistry. June 5, 1905.
- ARTHUR HOUSTON CHIVERS, Austin Teaching Fellow in Botany. March 18, 1905.
- MINTIN ASBURY CHRYSLER, Instructor and Assistant in Botany. May 8, 1905.
- LATHAM CLARKE, Instructor in Chemistry. June 5, 1905.
- LEON JACOB COLE, Austin Teaching Fellow in Zoölogy. May 1, 1905.
- WILLIAM MORSE COLE, Instructor in the Principles of Accounting. March 13, 1905.
- WILLIAM ARNOLD COLWELL, Instructor in German. May 22, 1905.
- FREDERICK SHEPHERD CONVERSE, Instructor in Music. May 1, 1905.
- CHARLES ALLERTON COOLIDGE, Lecturer on Architectural Design. June 5, 1905.
- VANDERVEER CUSTIS, Assistant in Economics. May 22, 1905.
- STUART DAGGETT, Austin Teaching Fellow in Economics. May 22, 1905.
- HARVEY NATHANIEL DAVIS, Instructor in Physics. March 13, 1905.
- FRANK MILES DAY, Lecturer on Architectural Design. June 5, 1905.
- ALFRED LEWIS PINNEO DENNIS, Lecturer on Modern History. January 14, 1905.
- ARTHUR STONE DEWING, Assistant in Philosophy. June 5, 1905.
- HORATIO WILLIS DRESSER, Assistant in Philosophy. June 5, 1905.
- ALDRICH DURANT, Assistant in Engineering. June 27, 1905.
- WALTER CHALONER DUFEE, Austin Teaching Fellow in Engineering. May 1, 1905.
- JULIUS WOOSTER EGGLESTON, Assistant in Geology. June 27, 1905.
- WILLIAM CURTIS FARABEE, Instructor in Anthropology. March 13, 1905.
- IRVING ANGELL FIELD, Austin Teaching Fellow in Zoölogy. May 1, 1905.
- HARRY LOUIS FREVERT, Austin Teaching Fellow in Chemistry. June 5, 1905.
- ARTHUR BOWES FRIZELL, Instructor in Mathematics. May 1, 1905.
- BENJAMIN ANTHORP GOULD FULLER, Assistant in Philosophy. June 5, 1905.
- HAROLD DE WOLF FULLER, Instructor in English. March 27, 1905.
- ARTHUR HOSMER GALE, Austin Teaching Fellow in Mining and Metallurgy. May 8, 1905.
- ANDREW GARBUTT, Instructor in Modelling. June 27, 1905.
- LUCIUS DWIGHT GRANGER, Austin Teaching Fellow in Metallurgical Chemistry and Metallurgy. May 8, 1905.
- HOWARD LEVI GRAY, Austin Teaching Fellow in History. May 1, 1905.
- JESSE MORE GREENMAN, Instructor in Botany. March 13, 1905.
- CHESTER NOYES GREENOUGH, Instructor in English. March 27, 1905.
- ROGER CASTLE GRIFFIN, Austin Teaching Fellow in Chemistry. June 5, 1905.
- CHAUNCEY CRAVEN HACKETT, Assistant in English. March 27, 1905.

- FRITZ HAGENS, Instructor in German. May 22, 1905.
 JOHN GALENTINE HALL, Assistant in Botany. March 13, 1905.
 THOMAS HALL, Jr., Instructor in English. March 27, 1905.
 LYMAN SAWIN HAPGOOD, Assistant in Hygiene. March 13, 1905.
 WILLIAM CLIFFORD HEILMAN, Instructor in Music. June 12, 1905.
 LAWRENCE JOSEPH HENDERSON, Instructor in Biological Chemistry. March 13, 1905.
 ASBURY HAVEN HERRICK, Instructor in German. May 22, 1905.
 ARTHUR STEDMAN HILLS, Instructor in Public Speaking. March 13, 1905.
 MURRAY ARNOLD HINES, Austin Teaching Fellow in Chemistry. June 5, 1905.
 WILLIAM ERNEST HOCKING, Instructor in Philosophy. June 5, 1905.
 PERCY HODGE, Assistant in Physics. June 27, 1905.
 SILAS WILDER HOWLAND, Assistant in Economics. May 22, 1905.
 PERCY ADAMS HUTCHISON, Assistant in Philosophy. June 5, 1905.
 CARL NEWELL JACKSON, Instructor in Greek. June 5, 1905.
 FRANCIS WAYLAND JOHNSTON, Austin Teaching Fellow in Economics. May 22, 1905.
 ROBERT MATTESSON JOHNSTON, Lecturer on Modern Italian History. March 13, 1905.
 HARRIE STUART VEDDER JONES, Assistant in English. March 27, 1905.
 HENRY CRAIG JONES, Assistant in Government. June 5, 1905.
 FRED ROBERT JOUETT, Assistant in Hygiene. March 13, 1905.
 ROBERT WILSON KELSO, Assistant in English. March 27, 1905.
 JOHN SAMUEL KENYON, Assistant in English. June 27, 1905.
 HERMAN BRUNSWICK KIPPER, Austin Teaching Fellow in Chemistry. June 5, 1905.
 ARTHUR BECKETT LAMB, Instructor in Physical Chemistry. June 5, 1905.
 ROBERT ADGER LAW, Instructor in English. June 27, 1905.
 FREDERICK WILLIAM CHARLES LIEDER, Austin Teaching Fellow in German. May 22, 1905.
 GEORGE LINCOLN, Instructor in Romance Languages. March 13, 1905.
 GEORGE WILLIAM LOW, Assistant in Geology. May 1, 1905.
 WILLIAM EDWARD LUNT, Assistant in Government. May 1, 1905.
 ROLLO LU VERNE LYMAN, Instructor in Public Speaking. March 13, 1905.
 ROLLO LU VERNE LYMAN, Instructor in English. March 27, 1905.
 NORMAN SHAW MCKENDRICK, Assistant in History. May 1, 1905.
 GEORGE ROGERS MANSFIELD, Austin Teaching Fellow in Geology. May 1, 1905.
 EDWARD RUSSELL MARKHAM, Instructor in Shopwork. May 1, 1905.
 SELDEN OSGOOD MARTIN, Austin Teaching Fellow in Economics. May 22, 1905.
 FRANK RICHARDSON MASON, Assistant in Economics. May 22, 1905.
 ROBERT BELL MICHELL, Instructor in Romance Languages. March 13, 1905.
 JARED SPARKS MOORE, Assistant in Philosophy. June 5, 1905.
 MARTIN MOWER, Instructor in Fine Arts. March 13, 1905.
 WILLIAM LUTHER MOWLL, Instructor in Architecture. June 5, 1905.
 ERICH MUENTER, Instructor in German. May 22, 1905.
 HERMAN DUDLEY MURPHY, Instructor in Drawing from the Life. June 5, 1905.
 JOHN TUCKER MURRAY, Instructor in English. June 27, 1905.

- ARTHUR EDWIN NORTON, Instructor in Mechanical Drawing and Descriptive Geometry. May 1, 1905.
- CHARLES READ NUTTER, Instructor in English. March 27, 1905.
- FREDERIC AUSTIN OGG, Austin Teaching Fellow in History. April 10, 1905.
- ANDREW ABIJAH PARKER, Assistant in Mechanical Drawing. May 1, 1905.
- EDMUND MORLEY PARKER, Lecturer on Comparative Administration. March 13, 1905.
- ROBERT SWAIN PEABODY, Lecturer on Architectural Design. June 5, 1905.
- AMON BENTON PLOWMAN, Assistant in Botany. March 13, 1905.
- ARTHUR POPE, Instructor in Fine Arts. June 5, 1905.
- CYRUS GUERNSEY PRINGLE, Botanical Collector. May 1, 1905.
- PAUL HECTOR PROVANDIE, Assistant in Hygiene. March 13, 1905.
- HERBERT WILBUR RAND, Instructor in Zoology. March 13, 1905.
- CONYERS READ, Assistant in History. April 10, 1905.
- WILLIAM CHAUNCEY RICE, Assistant in Government. June 5, 1905.
- RALPH WEBSTER RICHARDS, Assistant in Mineralogy. June 5, 1905.
- LINCOLN WARE RIDDLE, Austin Teaching Fellow in Botany. March 13, 1905.
- DAVID CAMP ROGERS, Instructor in Philosophy. May 1, 1905.
- ARTHUR WILLIAM RYDER, Instructor in German. May 22, 1905.
- ARTHUR WILLIAM RYDER, Instructor in Indic Philology. June 12, 1905.
- GUILFORD DARBY SCHOLL, Austin Teaching Fellow in Ore-Dressing and Assaying. May 8, 1905.
- SCHUYLER B SERVISS, Austin Teaching Fellow in Physics, March 13, 1905; title changed to Assistant in Physics, June 27, 1905.
- ARTHUR BLISS SEYMOUR, Assistant in the Cryptogamic Herbarium. April 10, 1905.
- HOWARD EDWIN SIMPSON, Assistant in Physiography and Meteorology. May 1, 1905.
- MACY MILLMORE SKINNER, Instructor in German. May 22, 1905.
- JOSEPH LINDON SMITH, Instructor in Freehand Drawing, for the second half-year. June 5, 1905.
- KENDALL KERFOOT SMITH, Assistant in Fine Arts. March 13, 1905.
- PHILIP SIDNEY SMITH, Instructor in Geology. May 1, 1905.
- STANLEY ARTHUR STARRATT, Austin Teaching Fellow in Geology. May 8, 1905.
- CHARLES MINER STEARNS, Instructor in English. March 27, 1905.
- VILHJÁLMUR STEFÁNSSON, Assistant in Anthropology. March 13, 1905.
- ELMER EDGAR STOLL, Instructor in English. June 27, 1905.
- HENRY LEROY STONE, Assistant in Music. March 13, 1905.
- RICHARD CLIPSTON STURGIS, Lecturer on Architectural Design. June 5, 1905.
- WALTER DANA SWAN, Instructor in Architecture. June 5, 1905.
- THOMAS HEAD THOMAS, Austin Teaching Fellow in Fine Arts. March 13, 1905.
- KEVORK GARABED TOURIAN, Austin Teaching Fellow in the History of Religion. May 8, 1905.
- ALFRED MARSTON TOZZER, Instructor in Central American Archaeology. March 13, 1905.
- ARTHUR TYNG, Austin Teaching Fellow in Engineering. May 1, 1905.
- ABBOTT PAYSON USHER, Assistant in Government. May 1, 1905.
- ROBERT PALFREY UTTER, Assistant in English. March 27, 1905.

- JOHN WILLIAM HENRY WALDEN, Instructor in Latin. February 20, 1905.
 HERBERT EUGENE WALTER, Assistant in Zoölogy. May 1, 1905.
 HAROLD BROADFIELD WARREN, Instructor in Freehand Drawing for the first half-year. June 5, 1905.
 HERMANN JULIUS WEBER, Instructor in German. May 22, 1905.
 KENNETH GRANT TREMAYNE WEBSTER, Instructor in English. March 27, 1905.
 EDGAR HUIDEKOPER WELLS, Instructor in English. March 27, 1905.
 EDMUND MARCH WHEELWRIGHT, Lecturer on Architectural Design. June 5, 1905.
 ARTHUR FISHER WHITTEM, Instructor in Romance Languages. March 13, 1905.
 BERTEL GLIDDEN WILLARD, Instructor in Public Speaking. March 18, 1905.
 FREDERICK SHENSTONE WOODS, Lecturer on Mathematics. June 27, 1905.
 CHESTER WHITNEY WRIGHT, Austin Teaching Fellow in Economics. May 22, 1905.
 ROBERT MEARNS YERKES, Instructor in Comparative Psychology. May 1, 1905.

MEMBERS OF THE ADMINISTRATIVE BOARD OF HARVARD COLLEGE.

[*Appointed September 27, 1904, unless otherwise stated.*]

- | | |
|--|--------------------------------|
| ARCHIBALD CARY COOLIDGE. | THEODORE LYMAN. Oct. 10, 1904. |
| GEORGE WASHINGTON CRAM. | CHARLES PALACHE. |
| JOHN HAYS GARDINER. | CHARLES POMEROY PARKER. |
| CHARLES BURTON GULICK. | ROBERT DECOURCY WARD. |
| JOHN GODDARD HART. | JAMES KELSEY WHITTEMORE. |
| BYRON SATTERLEE HURLBUT, <i>Dean</i> . | ROBERT WHEELER WILLSON. |
| LEWIS JEROME JOHNSON. | JAY BACKUS WOODWORTH. |
| CHARLES HENRY CONRAD WRIGHT. | |

MEMBER OF THE ADMINISTRATIVE BOARD OF THE LAWRENCE SCIENTIFIC SCHOOL.

[*September 27, 1904.*]

- | | |
|-------------------------|---|
| WILLIAM ERNEST CASTLE. | JAMES LEE LOVE. |
| EUGENE ABRAHAM DARLING. | ARTHUR ORLO NORTON. |
| JOHN GODDARD HART. | GEORGE WASHINGTON PIERCE. |
| IRA NELSON HOLLIS. | CHARLES ROBERT SANGER. |
| EDWARD CHARLES JEFFREY. | NATHANIEL SOUTHGATE SHALER, <i>Dean</i> . |
| FRANK LOWELL KENNEDY. | HENRY LLOYD SMYTH. |
| ARTHUR EDWIN KENNELLY. | HERBERT LANGFORD WARREN. |
| CHARLES HENRY WHITE. | |

MEMBERS OF THE ADMINISTRATIVE BOARD OF THE GRADUATE SCHOOL.

[October 31, 1904.]

MAXIME BÔCHER.

THOMAS NIXON CARVER.

WILLIAM MORRIS DAVIS.

GEORGE LYMAN KITTREDGE.

GEORGE FOOT MOORE.

HUGO MÜNSTERBERG.

WALLACE CLEMENT SABINE.

JOHN HENRY WRIGHT, *Dean*.

PROCTORS.

[For 1904-05.]

HERBERT SPENCER ALLEN. February 20, 1905, for the second half-year

ADELBERT AMES, JR. September 27, 1904.

HARRY MORGAN AYRES. September 27, 1904.

ARTHUR ATWOOD BALLANTINE. September 27, 1904.

WILLIAM GEORGE BARR. September 27, 1904.

REX MITCHELL BAXTER. February 20, 1905.

JAMES MACKINTOSH BELL. October 31, 1904.

HERBERT MELVILLE BOYLSTON. September 27, 1904.

HERMAN LARUE BROWN. September 27, 1904.

MORRIS RUGGLES BROWNELL. September 27, 1904.

LYMAN KENNETH CLARK. September 27, 1904.

VANDERVEER CUSTIS. September 27, 1904.

AUGUSTINE DERBY. September 27, 1904.

ROGER ERNST. September 27, 1904.

GORDON FAIRCHILD. September 27, 1904.

JAMES ALFRED FIELD. September 27, 1904.

PAUL BLANCHARD FISCHER. September 27, 1904.

ALEXANDER FORBES. September 27, 1904.

ORVILLE GISH FRANTZ. September 27, 1904.

ERNEST GEORGE. January 9, 1905, for the remainder of the current academic year.

JAMES AUGUSTUS GEORGE. September 27, 1904.

WILLIAM COOK GRAY. September 27, 1904.

WARWICK GREENE. September 27, 1904.

DONALD GREGG. September 27, 1904.

ROGER CASTLE GRIFFIN. September 27, 1904.

RICHARD INGLIS. January 9, 1905, for the remainder of the current academic year.

JOHN FRANCIS JENNINGS. September 27, 1904.

ROBERT PEEBLES KERNAN. September 27, 1904.

ROSS WATT LYNN. September 27, 1904.

FRANCIS JOSEPH O'CONNOR. September 27, 1904.

RALPH WALTER PAGE. October 10, 1904.

EDWIN WILLIAM PAHLOW. September 27, 1904.

WILLIAM AINSWORTH PARKER. October 10, 1904.

DONALD PARSON. October 31, 1904.

JAMES HORACE PATTEN. September 27, 1904.
 FRANCIS SAMUEL PHILBRICK. September 27, 1904.
 ELIHU ROOT, Jr. September 27, 1904.
 ROBERT WILLIAM SAWYER, Jr. September 27, 1904.
 EARNEST EVERETT SMITH. September 27, 1904.
 KENDALL KERFOOT SMITH. September 27, 1904.
 FLAVEL SHURTLEFF, Jr. October 31, 1904.
 VILHJÁLMUR STEFÁNSSON. September 27, 1904.
 ROBERT PALFREY UTTER. September 27, 1904.
 ROY SMITH WALLACE. September 27, 1904.
 ARTHUR HENRY WEED. September 27, 1904.
 KENNARD WINSOR. October 10, 1904.

[For 1905-06.]

FRANCIS RAYMOND STURTEVANT, Proctor of Divinity Hall. June 27, 1905.

MEMBERS OF THE BOARD OF EXAMINATION PROCTORS.

OCTOBER 31, 1904.

AUGUSTUS SAMUEL BEATMAN.	HENRY CRAIG JONES.
HERBERT MELVILLE BOYLSTON.	JOHN FRANK LANGMAID.
HENRY COOK BOYNTON.	ROLLO LU VERNE LYMAN.
LEO LÉGAY BURLEY.	CHARLES READ NUTTER.
LYMAN KENNETH CLARK.	FRANCIS JOSEPH O'CONNOR.
WILLIAM ARNOLD COLWELL.	EDWIN WILLIAM PAHLOW.
STUART DAGGETT.	JAMES HORACE PATTEN.
EMERSON DAVID FITE.	LOUIS ROSS.
CHARLES EDMUND FRYER.	HOWARD EDWIN SIMPSON.
JAMES AUGUSTUS GEORGE.	VILHJÁLMUR STEFÁNSSON.
JAMES ANDREW GIBSON.	ARTHUR TYNG.
ROGER CASTLE GRIFFIN.	ROLAND GREENE USHER.
LYMAN SAWIN HAPGOOD.	CLEMENT LESLIE VAUGHAN.
ARTHUR DAY HOWARD.	ROGER CLARK WELLS.

CHESTER WHITNEY WRIGHT.

DIVINITY SCHOOL.

WILLIAM WALLACE FENN, Acting Dean of the Faculty of Divinity during the absence of the Dean. May 8, 1905.

[Without limit of time, or for more than one year.]

GEORGE FOOT MOORE, Frothingham Professor of the History of Religion from September 1, 1904. November 14, 1904.

LAW SCHOOL.

[For 1904-05.]

JAMES COOLIDGE CARTER, Lecturer on the Origin, Growth, and Function of Law. October 31, 1904.

SAMUEL HUDSON HOLLIS, Lecturer on Insurance. October 10, 1904.

CLARENCE HARMON OLSON, Lecturer on Admiralty. October 10, 1904.

RUFUS WILLIAM SPRAGUE, JR., Lecturer on New York Practice. May 1, 1905.

[For 1905-06.]

JEREMIAH SMITH, JR., Lecturer on Massachusetts Practice. May 8, 1905.

MEDICAL SCHOOL.

[Without limit of time, or for more than one year.]

FRANZ PFAFF, Professor of Pharmacology and Therapeutics from September 1, 1905. June 12, 1905.

[For 1904-05.]

GEORGE LORIMER BAKER, Assistant in Bacteriology. October 10, 1904.

JOHN WASHBURN BARTOL, Assistant in Clinical Medicine for the remainder of the current academic year. February 13, 1905.

WALTER AUGUSTUS LECOMPTE, Assistant in Otology. October 10, 1904.

FREDERICK TAYLOR LORD, Assistant in Clinical Medicine for the remainder of the current academic year. February 13, 1905.

ERNEST DE WOLFE WALES, Assistant in Otology. October 10, 1904.

GEORGE HENRY WRIGHT, Assistant in Histology. November 14, 1904.

[For 1905-06.]

CARL LUCAS ALSBERG, Instructor in Biological Chemistry. June 27, 1905.

GEORGE SHERWIN CLARKE BADGER, Assistant in the Theory and Practice of Physic. June 12, 1905.

GEORGE LORIMER BAKER, Assistant in Bacteriology. June 12, 1905.

FRANKLIN GREENE BALCH, Assistant in Surgery. June 12, 1905.

ALBERT MOORE BARRETT, Assistant in Neuropathology. June 12, 1905.

JOHN WASHBURN BARTOL, Assistant in Clinical Medicine. June 12, 1905.

JOHN BAPT BLAKE, Instructor in Surgery. June 12, 1905.

ELLIOTT GRAY BRACKETT, Assistant in Orthopedics. June 12, 1905.

JOHN LEWIS BREMER, Instructor in Histology and Embryology. June 27, 1905.

GEORGE WASHINGTON WALES BREWSTER, Assistant in Surgery. June 12, 1905.

WALTER REMSEN BRINCKERHOFF, Assistant in Pathology, June 12, 1905; title changed to Instructor in Pathology, June 27, 1905.

FREDERICK STANFORD BURNS, Assistant in Dermatology. June 12, 1905.

CHARLES SHOREY BUTLER, Assistant in Anatomy. June 12, 1905.

RICHARD CLARKE CABOT, Instructor in Clinical Medicine. June 27, 1905.

DAVID CHEEVER, Assistant in Anatomy. June 12, 1905.

HENRY ASBURY CHRISTIAN, Instructor in the Theory and Practice of Physic. June 12, 1905.

- EDMUND WRIGHT CLAP, Assistant in Ophthalmology. June 12, 1905.
 FREDERIC CODMAN COBB, Assistant in Laryngology. June 12, 1905.
 ERNEST AMORY CODMAN, Assistant in Surgery. June 12, 1905.
 ROCKWELL AUGUSTUS COFFIN, Assistant in Laryngology. June 12, 1905.
 JOHN MATTHEW CONNOLLY, Assistant in Chemistry. June 12, 1905.
 ALGERNON COOLIDGE, Jr., Clinical Instructor in Laryngology. June 12, 1905.
 EDWARD COWLES, Clinical Instructor in Mental Diseases. June 12, 1905.
 GEORGE ARTHUR CRAIGIN, Clinical Instructor in Pediatrics. June 12, 1905.
 LEROI GODDARD CRANDON, Assistant in Surgery. June 12, 1905.
 EUGENE ANTHONY CROCKETT, Instructor in Otology. June 12, 1905.
 ELBRIDGE GERRY CUTLER, Instructor in the Theory and Practice of Physic.
 June 12, 1905.
 JOHN DANE, Assistant in Orthopedics. June 12, 1905.
 LINCOLN DAVIS, Instructor in Anatomy. June 12, 1905.
 THOMAS AMORY DEBLOIS, Clinical Instructor in Laryngology. June 12, 1905.
 FRANCIS PARKMAN DENNY, Assistant in Clinical Medicine. June 12, 1905.
 JAMES CROWLEY DONOGHUE, Assistant in Histology. June 12, 1905.
 CHARLES HUNTER DUNN, Assistant in Pediatrics. June 12, 1905.
 SAMUEL HOLMES DURGIN, Lecturer on Hygiene. June 12, 1905.
 EUGENE ELLSWORTH EVERETT, Assistant in Bacteriology. June 12, 1905.
 JOHN WOODFORD FARLOW, Clinical Instructor in Laryngology. June 12, 1905.
 WILLIAM EDWARD FAULKNER, Assistant in Surgery. June 12, 1905.
 ELISHA FLAGG, Assistant in Anatomy. June 12, 1905.
 LEO VICTOR FRIEDMAN, Assistant in Obstetrics. June 12, 1905.
 LANGDON FROTHINGHAM, Austin Teaching Fellow in Bacteriology. June 12,
 1905.
 GEORGE WASHINGTON GAY, Lecturer on Surgery. June 12, 1905.
 JOEL ERNEST GOLDTHWAIT, Assistant in Orthopedics. June 12, 1905.
 CHARLES MONTRAVILLE GREEN, Secretary of the Faculty of Medicine. June
 12, 1905.
 ROBERT BATTEY GREENOUGH, Instructor in Surgery. June 12, 1905.
 PHILIP HAMMOND, Assistant in Otology. June 12, 1905.
 FRANCIS BISHOP HARRINGTON, Lecturer on Surgery. June 12, 1905.
 HENRY HILL HASKELL, Assistant in Ophthalmology. June 12, 1905.
 LAWRENCE JOSEPH HENDERSON, Instructor in Biological Chemistry. June 27,
 1905.
 HENRY FOX HEWES, Instructor in Clinical Chemistry. June 12, 1905.
 HIBBERT WINSLOW HILL, Instructor in Bacteriology. June 12, 1905.
 EDWIN EVERETT JACK, Instructor in Ophthalmology. June 12, 1905.
 HENRY JACKSON, Instructor in Clinical Medicine. June 12, 1905.
 JAMES MARSH JACKSON, Assistant in Clinical Medicine. June 12 1905.
 DANIEL FISKE JONES, Assistant in Surgery. June 12, 1905.
 ELLIOTT PROCTOR JOSLIN, Instructor in the Theory and Practice of Physic.
 June 12, 1905.
 PHILIP COOMBS KNAPP, Clinical Instructor in Diseases of the Nervous System.
 June 12, 1905.
 MAYNARD LADD, Assistant in Pediatrics. June 12, 1905.
 WALTER AUGUSTUS LECOMPTE, Assistant in Otology. June 12, 1905.
 FREDERIC THOMAS LEWIS, Instructor in Histology and Embryology. June 27,
 1905.

- RALPH STATNER LILLIE, Instructor in Physiology. June 12, 1905.
EDWIN ALLEN LOCKE, Assistant in Clinical Medicine. June 12, 1905.
FREDERICK TAYLOR LORD, Assistant in Clinical Medicine. June 12, 1905.
HOWARD AUGUSTUS LOTHROP, Instructor in Surgery. June 12, 1905.
ROBERT WILLIAMSON LOVETT, Assistant in Orthopedics. June 12, 1905.
FRED BATES LUND, Assistant in Surgery. June 12, 1905.
GEORGE BURGESS MAGRATH, Assistant in Pathology. June 12, 1905.
HENRY ORLANDO MARCY, Jr., Assistant in Anatomy. June 12, 1905.
SAMUEL JASON MIXTER, Lecturer on Surgery. June 12, 1905.
GEORGE HOWARD MONKS, Lecturer on Surgery. June 12, 1905.
JOHN LOVETT MORSE, Instructor in Pediatrics. June 12, 1905.
HARRIS PRYTON MOSHER, Assistant in Anatomy and Laryngology. June 12, 1905.
FRED TOWSLEY MURPHY, Austin Teaching Fellow in Surgery. June 12, 1905.
LOUIS NELSON, Assistant in Materia Medica. June 12, 1905.
FRANKLIN SPILMAN NEWELL, Instructor in Obstetrics and Assistant in Gynaecology. June 12, 1905.
CHAUNCEY WILLIAMS NORTON, Assistant in Anatomy. June 12, 1905.
WILLIAM NOYES, Clinical Instructor in Mental Diseases. June 12, 1905.
CALVIN GATES PAGE, Assistant in Bacteriology. June 12, 1905.
FRANCIS WINSLOW PALFREY, Assistant in Bacteriology. June 12, 1905.
HENRY JOSEPH PERRY, Assistant in Bacteriology. June 12, 1905.
CHARLES ALLEN PORTER, Instructor in Surgery. June 12, 1905.
ABNER POST, Instructor in Syphilis. June 12, 1905.
JOSEPH HERSEY PRATT, Assistant in the Theory and Practice of Physic. June 12, 1905.
ALEXANDER QUACKENBOSCH, Instructor in Ophthalmology. June 12, 1905.
WILLIAM HENRY ROBEY, Jr., Assistant in Clinical Medicine. June 12, 1905.
SAMUEL ROBINSON, Assistant in Anatomy. June 12, 1905.
DAVID DANIEL SCANNELL, Assistant in Anatomy. June 12, 1905.
CHARLES MORTON SMITH, Assistant in Syphilis. June 12, 1905.
WILLIAM HENRY SMITH, Assistant in Clinical Medicine. June 12, 1905.
ELMER ERNEST SOUTHARD, Instructor in Neuropathology. June 12, 1905.
FRED MAURICE SPALDING, Assistant in Ophthalmology. June 12, 1905.
ARTHUR KINGSBURY STONE, Assistant in the Theory and Practice of Physic. June 12, 1905.
MALCOLM STORER, Assistant in Gynaecology. June 12, 1905.
HOWARD TOWNSEND SWAIN, Assistant in Obstetrics. June 12, 1905.
EDWARD WYLLYS TAYLOR, Assistant in Neurology. June 27, 1905.
EZRA RIPLEY THAYER, Lecturer on the Relation of the Medical Profession to the Law and the Courts. June 12, 1905.
PAUL THORNDIKE, Instructor in Genito-urinary Surgery. June 12, 1905.
JAMES ROCKWELL TORBERT, Assistant in Obstetrics. June 12, 1905.
HARVEY PARKER TOWLE, Assistant in Dermatology. June 12, 1905.
MAURICE PAUL OCTAVE VEJUX-TYRDE, Instructor in Pharmacology. June 12, 1905.
HERMAN FRANK VICKERY, Instructor in Clinical Medicine. June 12, 1905.
RICHARD GOODWIN WADSWORTH, Assistant in Anatomy. June 12, 1905.
ERNEST DEWOLFE WALES, Assistant in Otology. June 12, 1905.
GEORGE LINCOLN WALTON, Clinical Instructor in Diseases of the Nervous System. June 12, 1905.

- GEORGE ARTHUR WATERMAN, Assistant in Neurology. June 12, 1905.
 FRANCIS SEDGWICK WATSON, Lecturer on Genito-urinary Surgery. June 12, 1905.
 CHARLES JAMES WHITE, Instructor in Dermatology. June 12, 1905.
 FRANKLIN WARREN WHITE, Assistant in the Theory and Practice of Physic. June 12, 1905.
 GEORGE HENRY WRIGHT, Assistant in Histology. June 12, 1905.
 JAMES HOMER WRIGHT, Instructor in Pathology. June 12, 1905.
 ERNEST BOYEN YOUNG, Assistant in Gynaecology. June 12, 1905.

MEMBERS OF THE ADMINISTRATIVE BOARD OF THE MEDICAL SCHOOL.

[For 1904-05.]

OCTOBER 10, 1904.

- | | |
|----------------------------|---|
| WALTER BRADFORD CANNON. | WILLIAM LAMBERT RICHARDSON, <i>Dean</i> . |
| CHARLES MONTRAVILLE GREEN. | FREDERICK CHEEVER SHATTUCK. |
| CHARLES HARRINGTON. | JOHN COLLINS WARREN. |
| FRANK BURR MALLORY. | WILLIAM FISKE WHITNEY. |
| EDWARD STICKNEY WOOD. | |

DENTAL SCHOOL.

[For 1904-05.]

- FREDERICK BRADLEY, Instructor in Operative Dentistry, June 20, 1904; title changed to Lecturer on Operative Dentistry, October 10, 1904.
 FREDERICK MATTHEW CASSIDY, Assistant Demonstrator of Mechanical Dentistry. October 10, 1904.
 SAMUEL TUTTLE ELLIOTT, Instructor in Operative Dentistry. October 10, 1904.
 EDWIN LINWOOD FARRINGTON, Instructor in Extracting and Anaesthesia. October 10, 1904.
 ERNEST JEWETT HART, Instructor in Extracting and Anaesthesia. October 10, 1904.
 GEORGE HOWARD MONKS, Instructor in Surgical Pathology. October 10, 1904.
 LESLIE HERBERT NAYLOR, Instructor in Operative Dentistry. October 10, 1904.
 JAMES JOSEPH O'BRIEN, Instructor in Extracting and Anaesthesia. October 10, 1904.
 HENRY CARLTON SMITH, Instructor in Physiological and Dental Chemistry. December 12, 1904.
 WILLIAM DANIEL SQUAREBRIGS, Instructor in Extracting and Anaesthesia. October 10, 1904.
 JULIUS GEORGE WILLIAM WERNER, Clinical Instructor in Operative Dentistry. October 10, 1904.

[For 1905-06.]

- LAWRENCE WILLS BAKER, Instructor in Orthodontia. June 12, 1905.
 EDWIN CARTER BLAISDELL, Instructor in Operative Dentistry. June 12, 1905.
 JOHN BAPTIST BLAKE, Instructor in Surgery. June 12, 1905.
 FREDERICK BRADLEY, Lecturer on Operative Dentistry. June 12, 1905.

- ERNEST HOWARD CHUTE, Instructor in Mechanical Dentistry. June 12, 1905.
- DWIGHT MOSES CLAPP, Clinical Lecturer on Operative Dentistry. June 12, 1905.
- HAROLD DEWITT CROSS, Demonstrator of Mechanical Dentistry. June 12, 1905.
- DWIGHT WARD DICKINSON, Demonstrator of Operative Dentistry. June 12, 1905.
- JOHN DANA DICKINSON, Clinical Instructor in Mechanical Dentistry. June 12, 1905.
- JOHN WALKER DICKINSON, Instructor in Mechanical Dentistry. June 12, 1905.
- FORREST GREENWOOD EDDY, Instructor in Operative Dentistry. June 12, 1905.
- ARTHUR WARREN ELDRED, Instructor in Mechanical Dentistry. June 12, 1905.
- SAMUEL TUTTLE ELLIOTT, Instructor in Operative Dentistry. June 12, 1905.
- JOHN IRVING ESGATE, Instructor in Mechanical Dentistry. June 12, 1905.
- JOHN WESLEY ESTABROOKS, Instructor in Mechanical Dentistry. June 12, 1905.
- EDWIN LINWOOD FARRINGTON, Instructor in Extracting and Anaesthesia. June 12, 1905.
- JAMES AUSTIN FURFEY, Instructor in Operative Dentistry. June 12, 1905.
- AMOS IRVING HADLEY, Instructor in Mechanical Dentistry. June 12, 1905.
- ERNEST JEWETT HART, Instructor in Extracting and Anaesthesia. June 12, 1905.
- THOMAS BERNARD HAYDEN, Instructor in Mechanical Dentistry. June 12, 1905.
- ELBRIDGE DECOSMOS KING, Instructor in Mechanical Dentistry. June 12, 1905.
- MARQUIS D LITTIG, Instructor in Operative Dentistry. June 12, 1905.
- ELMER JOSEPH MARSTON, Instructor in Extracting and Anaesthesia. June 12, 1905.
- LEROY MATTHEW SIMPSON MINER, Instructor in Extracting and Anaesthesia. June 12, 1905.
- GEORGE HOWARD MONKS, Lecturer on Surgery. June 12, 1905.
- JAMES JOSEPH O'BRIEN, Instructor in Extracting and Anaesthesia. June 12, 1905.
- HARRY SNOW PARSONS, Instructor in Mechanical Dentistry. June 12, 1905.
- JOSEPH TOTTEN PAUL, Instructor in Operative Dentistry. June 12, 1905.
- CHARLES ERNEST PERKINS, Instructor in Operative Dentistry. June 12, 1905.
- NORMAN GREENE REOCH, Instructor in Orthodontia. June 12, 1905.
- CHARLES WILLIAM RODGERS, Instructor in Dental Materia Medica. June 12, 1905.
- MELVILLE FORREST ROGERS, Instructor in Operative Dentistry. June 12, 1905.
- HARRY BENJAMIN SHUMAN, Instructor in Oral Surgery. June 12, 1905.
- HENRY CARLTON SMITH, Lecturer on Dental Chemistry. June 12, 1905.
- DAVID FREDERICK SPINNEY, Instructor in Mechanical Dentistry. June 12, 1905.
- WILLIAM DANIEL SQUAREBRIGS, Instructor in Extracting and Anaesthesia. June 12, 1905.
- WILFRED HARLOW STARRATT, Instructor in Operative Dentistry. June 12, 1905.
- ARTHUR HENRY STODDARD, Clinical Lecturer on Mechanical Dentistry. June 12, 1905.

EDWARD WYLLYS TAYLOR, Instructor in Neurology. June 12, 1905.
 JULIUS GEORGE WILLIAM WERNER, Clinical Instructor in Operative Dentistry.
 June 12, 1905.
 ROBERT WHITEHILL, Instructor in Operative Dentistry. June 12, 1905.

MEMBERS OF THE ADMINISTRATIVE BOARD OF THE DENTAL SCHOOL.

[1904-05.]

OCTOBER 10, 1904.

WALDO ELIAS BOARDMAN.	DWIGHT MOSES CLAPP.
CHARLES ALBERT BRACKETT.	WILLIAM PARKER COOKE.
EDWARD CORNELIUS BRIGGS.	WILLIAM HENRY POTTER.
EUGENE HANES SMITH, <i>Dean</i> .	

BUSSEY INSTITUTION.

[*For the Calendar year 1904.*]

JOHN GEORGE JACK, Lecturer at the Arnold Arboretum. September 27, 1904.

[*For 1904-05.*]

CLIFTON HARLAN PAIGE, Instructor in Mathematics and Surveying. October 10, 1904.

[*For 1905-06.*]

DANIEL ALLEN CLARKE, Assistant in Horticulture. May 8, 1905.
 FRANK THOMPSON DILLINGHAM, Instructor in Agricultural Chemistry. May 8, 1905.
 CLIFTON HARLAN PAIGE, Instructor in Mathematics and Surveying. May 8, 1905.
 JOHN HAMILTON ROBINETTE, Instructor in Agriculture. May 8, 1905.
 ALBERT EDWARD SHEDD, Assistant in Horticulture. May 8, 1905.

OTHER APPOINTMENTS.

HENRY PICKERING WALCOTT, Chairman of the Corporation during the absence of the President; a member of all the Faculties of the University, with the powers and duties of the President therein during the absence of the President; to act as the ordinary medium of communication between the Corporation and the Board of Overseers, during the absence of the President. January 14, 1905.

[*Without limit of time, or for more than one year.*]

WALTER SAFFORD BURKE, Inspector of Grounds and Buildings from September 1, 1904. September 27, 1904.
 CHARLES WILLIAM ELIOT, Member of the Administrative Board of the School for Social Workers. June 12, 1905.

SAMUEL HENSHAW, a member of the Faculty, and Curator, of the Museum of Comparative Zoölogy. October 3, 1904.

JOSEPH LEE, Member of the Administrative Board of the School for Social Workers. June 12, 1905.

CHARLES AUGUSTUS MAHADY, Superintendent of the Reading Room (Library) from September 1, 1904. October 31, 1904.

FRANCIS GREENWOOD PEABODY, Member of the Administrative Board of the School for Social Workers. June 12, 1905.

ALFRED CLAGHORN POTTER, Assistant Librarian from September 1, 1904. October 31, 1904.

GEORGE WASHINGTON ROBINSON, Secretary of the Graduate School from September 1, 1905. November 14, 1904.

CHARLES MINER STEARNS, Regent from September 1, 1905. June 27, 1905.

GEORGE PARKER WINSHIP, Curator of Mexican History from September 1, 1905. May 8, 1905.

[For 1905-06.]

WALTER LICHTENSTEIN, Curator of the Hohenzollern Collection of German History for one year from June 1, 1905. May 8, 1905.

WALDO BRUCE RUSSELL, Auditor of the Randall Hall Association. June 27, 1905.

PREACHERS TO THE UNIVERSITY.

LYMAN ABBOTT. June 27, 1905.

HENRY VAN DYKE. May 8, 1905.

EDWARD CALDWELL MOORE. May 8, 1905.

FRANCIS GREENWOOD PEABODY. June 27, 1905.

COMMITTEE ON THE REGULATION OF ATHLETIC SPORTS.

APPOINTED JUNE, 27, 1905, UNLESS OTHERWISE STATED.

Faculty Members:

ROGER BIGELOW MERRIMAN.

EDWARD HALL NICHOLS.

HORATIO STEVENS WHITE.

Graduate Members:

NORMAN WILLIAMS BINGHAM, Jr.

GEORGE RICHMOND FEARING, Jr.

ROBERT FREDERICK HERRICK. March 27, 1905.

TRUSTEES OF THE MUSEUM OF FINE ARTS.

NOVEMBER 14, 1904.

WILLIAM STURGIS BIGELOW.

ARTHUR TRACY CABOT.

JOHN TEMPLEMAN COOLIDGE, Jr.

PROPOSED AGREEMENT BETWEEN HARVARD UNIVERSITY
AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY
FOR COÖPERATION AND ALLIANCE IN THE CONDUCT
AND PROMOTION OF EDUCATION IN INDUSTRIAL SCIENCE.

Harvard University and the Massachusetts Institute of Technology, being convinced, after a careful consideration of the conditions which affect the work of education in industrial science, that such work can be greatly advanced and enlarged by a coöperation of the two institutions, in order to secure mutual assistance, render possible a larger enterprise, promote economy, avoid duplication and competition, and give to the purpose of donors who have bestowed money in trust for that object a fuller accomplishment, do make this agreement, which shall endure so long as it shall be found to serve, to the satisfaction of both institutions, the objects above declared. But, whereas the carrying out of such agreement will require the employment of the income of the funds which the University holds, or will hereafter hold in trust, and the University feels that faithfulness in the performance of these trusts which it has accepted is its first duty, to which all other considerations must yield, this agreement shall not go into effect until and unless the University shall have applied to the Supreme Judicial Court for instructions and the court shall have made a decree that this agreement may be carried out without violation of its duties as a trustee and in accordance with law and equity.

I. The organization of the University, the organization of the Institute, and the title of each to its property and funds shall remain unaffected by this agreement, as shall also the rights and duties of each in investing and managing its funds.

II. The institution for the combined work of promoting and furnishing education in industrial science, which it is the object of this agreement to establish, shall retain the name of the Massachusetts Institute of Technology; it shall be under the direction of an Executive Committee, and the instruction therein shall be given by a Faculty, which two bodies shall be constituted as herein below provided.

III. The said Executive Committee shall consist of nine persons, to be designated by the Massachusetts Institute of Technology, of whom two shall be the President of the Corporation of the Institute and the Treasurer of the Institute, and three shall be members of the Corporation of the University.

Subject to the restrictions herein below expressed, the said Executive Committee shall have the general administration and superintendence of all matters concerning said combined work, including the appointment of officers of instruction and government, and of servants, the power to remove any of them, the fixing of their salaries and the prescribing of their duties, the care of buildings, property, and equipment, the appropriation of money put at its disposal under this agreement, the fixing,

collecting, and expending of students' fees, and the supervision and direction of the work of the Faculty, these being substantially the powers now conferred on the Executive Committee of the Institute by its by-laws; it being, however, expressly provided that all appropriations from money furnished either by the University or by the Institute, and all proposed appointments or removals of officers whose salaries are to be paid therefrom, shall be submitted to the Corporation concerned and approved by it before being finally adopted, it being understood that students' fees shall be deemed to be furnished by the Institute, and that no change shall be made in those fees without its approval.

The said Executive Committee shall keep records of its proceedings, and shall make reports to the Corporation of the University and the Corporation of the Institute annually, and at such other times as either Corporation may request.

IV. The President of the Institute for the time being shall be the President of the said Executive Committee, and shall preside at its meetings, when present. His salary, as fixed by the Corporation of the Institute, shall be paid from the funds furnished by the Institute. He shall be the Chairman of the Faculty, shall have the superintendence of the several departments, and shall act as general executive and administrative officer, subject to the direction and control of said Executive Committee. He shall annually make a report to the Corporation of the University and to the Corporation of the Institute. Whenever a person shall vacate the office of President of the Institute, he shall thereupon cease to be a member of the said Executive Committee.

V. The Treasurer of the Massachusetts Institute of Technology shall be *ex officio* the Treasurer of the said Executive Committee. He shall, as Treasurer of the said Executive Committee, have charge of the funds put at the disposal of said committee, shall make such payments as the committee may authorize, shall keep accurate accounts of all money received and expended, and shall make report of his doings annually, or oftener if required, to the said committee, and to the Corporation of the University and to the Corporation of the Institute.

VI. The Faculty shall consist of all the present professors, associate professors, and assistant professors of the Institute, and all professors, associate professors, and assistant professors of the University who now give courses of instruction leading to degrees in industrial science, and such officers hereafter appointed as said Executive Committee may designate. The present professors, associate professors, and assistant professors of the University as aforesaid shall not be removed nor have their present salaries reduced without the consent of the Corporation of the University.

Subject to the supervision and direction of the said Executive Committee, the Faculty shall have charge of instruction and discipline.

VII. Subject to the reservations hereinafter set forth, the University shall place at the disposal of said Executive Committee, as above pro-

vided, the net income of all funds which are now credited on its books to the credit of the Lawrence Scientific School, also the use of all machinery, instruments, and equipment which the University holds, and the income of all property which it may hereafter acquire for the promotion of instruction in industrial science, and also three-fifths, but no more, of the net income which may accrue from the bequest and devise of the late Gordon McKay.

VIII. Subject to the reservations herein set forth, the Institute shall place at the disposal of the said Executive Committee the net income of all funds and the use of all property and equipment which the Institute may hold for the promotion of instruction in industrial science, reserving only such amounts and property as it may require to maintain its organization and to carry on such functions as may remain to it independently of the promotion of industrial science.

IX. In so far as money contributed by either Corporation under this agreement may be used by the said Executive Committee for the purchase of equipment or supplies, the title thereto shall be in the Corporation whose money is appropriated therefor.

X. The site of the institution shall be in Boston on the right bank of the Charles River, as nearly as practicable opposite to Harvard Square, and the Massachusetts Institute of Technology shall there erect, furnish, and equip buildings having the capacity of at least its present buildings. But the Institute shall not be required to proceed with such purchase and construction until it shall have sold a sufficient part of the land which it now owns. Provided, however, that this agreement shall be avoided if at the end of four years from the time when this agreement goes into effect the Institute shall not have purchased said land and proceeded to a substantial extent with such construction.

XI. Within three years after the Massachusetts Institute of Technology begins the construction of such new buildings, if the Institute is then prepared to give in its new location to the students of the Lawrence Scientific School all needed instruction in industrial science, the Lawrence Scientific School shall be discontinued as a separate school of industrial science so long as this agreement remains in force.

XII. The degrees of Bachelor, Master and Doctor in Science, so far as given in industrial science, and all degrees in engineering, together with the requirements of courses of study leading to these degrees, shall be within the province of the Faculty; and these degrees shall be conferred by the Corporations of the University and the Institute, acting separately.

XIII. Male students in the Institute shall have the same privileges as students in Harvard University in the use of the playgrounds, museums, and libraries of the University.

Under regulations to be made by the two Corporations, and on payment of proper fees, students of the Institute shall be admitted to courses of instruction and the use of laboratories of the University, outside of those pertaining to industrial science, and students of the University to the courses and use of laboratories of the Institute.

XIV. The Corporation and Overseers of the University and the Corporation of the Massachusetts Institute of Technology shall each have full right at all times to inspect the institution, and suggest to the said Executive Committee changes in the methods of management.

XV. The Department of Architecture in the University and in the Institute respectively are not included in this agreement, but remain unaffected hereby.

XVI. It is expressly provided that, as regards the funds and property of the University and of the Institute respectively, this agreement shall be subject to any special terms and requirements upon which such funds and property may be held; and any property or funds which may be held at any time by either Corporation under such terms and restrictions as would prevent the use of them in the precise manner contemplated by this agreement shall, nevertheless, be used by the two Corporations respectively for the support, benefit, or encouragement of the scheme agreed upon, in such manner as may be permissible and in accordance with the trusts upon which they may be held.

XVII. The arrangements established by this agreement may be terminated at any time either by the President and Fellows of Harvard University or by the Corporation of the Massachusetts Institute of Technology, upon reasonable notice to the other Corporation.

In the event of the termination of this agreement, the Massachusetts Institute of Technology must pay, at such prices and upon such terms as the parties may agree upon, and, if they cannot agree thereon, as may be fixed by arbitration (usual arbitration clause), for any buildings or fixtures upon said site, paid for with funds furnished by the University.

XVIII. This agreement shall take effect when finally adopted and approved by the Corporation and the Overseers of the University and the Corporation of the Institute, and when and if a decree of the Supreme Judicial Court, as provided for in the preamble hereof, shall have been obtained.

TEACHERS' ENDOWMENT FUND.

TO THE ALUMNI OF HARVARD COLLEGE:—

Great as is Harvard University we sons of Harvard turn back to the old College, the School of Liberal Arts, for our happiest memories and highest ideals.

The heart of the University is the College, the Alma Mater which receives the boys from their homes and leads them into her spirit and high traditions. The heart of the College is the teachers. The position of Harvard to-day among American Universities is due not so much to its age, traditions, or able administration as to its noble line of teachers. That the teachers in the College should be the best in the land; that the older professors should be free from the cares of a straitened income; that the younger teachers should be able to give themselves without distraction to their work; that the best men should not be drawn away to

other Colleges but should see before them reasonable promotion in work and salary, is essential to the leadership of Harvard and the culture of her sons.

Great gifts have been made for special objects and different departments of the University in recent years, but the addition to the endowment of the teaching force of the old College has been comparatively small. Meanwhile students, teachers, subjects, and courses have multiplied. The classics, philosophy, modern languages, history, mathematics, the standard studies, have all increased their corps of teachers.

With what results?

Facing deficits in seven of the past nine years, the Corporation has now cut down the general expenses to the danger point, has refused the usual advance in salaries and reduced the standard of salaries of new teachers until on December 14, 1904, the Overseers passed this vote: —

“ That it is the sense of this Board that salaries of professors and instructors should be maintained and that the customary and expected increase of salary be paid in every instance, irrespective of any other economies.”

The College salary list is as follows: —

57 Professors:		38 Assistant Professors:	
18	receive \$5,000	9	receive \$3,000
9	“ 4,500	25	“ 2,000
15	“ 4,000	4	“ 1,600
20	“ 3,600 and less.	Average	2,130
Average	3,980		
88 Instructors:			
1	receives \$2,000		
29	receive 1,750 — \$1,100		
33	“ 1,000		
25	“ 925 and less.		
Average	990		

These with the assistants, lecturers, tutors, etc., make a staff of 279 teachers. Total salaries, \$487,821. Average, \$1,570.

In these days of increasing cost of living and of higher salaries in commercial and industrial pursuits, the Alumni and friends of Harvard will not allow the men who teach their boys and who fill the chairs of the great teachers of the past to receive these meagre wages.

The time has now come when the sons of Harvard may rally to her help and in grateful love make her the gift of an endowment of at least \$2,500,000, to increase the present totally inadequate amount available for the salaries of the teaching staff of the College.

During the past few months a number of the Alumni and friends of the College have subscribed individually or through their classes, \$1,800,000. *No response to this letter is of course expected from them.*

We believe that every son of Harvard wishes the privilege of taking part in this great gift. We therefore send this letter to all the living graduates.

Such a sum cannot be raised without large subscriptions from those who can afford even at a sacrifice to make them.

Our most earnest hope is, however, that before next Commencement Day every *Alumnus* will send some subscription, however small, and thus make this gift to the College a token of affection from every living son of Harvard.

WILLIAM LAWRENCE, *Chairman*.

FRANCIS L. HIGGINSON, *Vice-Chairman*.

CHARLES S. FAIRCHILD.

HENRY S. HOWE.

FRANCIS R. APPLETON.

AUGUSTUS HEMENWAY.

ROBERT BACON.

THEODORE ROOSEVELT.

JAMES J. STORROW.

BENJAMIN CARPENTER.

CAMBRIDGE, May 18, 1905.

[*Translation.*]

AGREEMENT BETWEEN THE UNIVERSITY OF BERLIN AND HARVARD UNIVERSITY CONCERNING THE MUTUAL EX- CHANGE OF TEACHERS.

1. The University of Berlin binds itself to secure annually a leave of absence for one or two of its professors to the end that they may take part, for a period of three months each (or for whatever other period may seem more suitable to you), in the instruction at Harvard University, after the manner that seems there appropriate.

2. Harvard University assumes the same obligation towards the University of Berlin.

3. The choice of the professors is made in accordance with a mutual understanding between the President of Harvard University and the Rector of the University of Berlin.

4. The times of year especially suited appear to be (a) for Harvard University, the months of October to December, or January to March (or whatever other periods may seem more suitable to you), (b) for the University of Berlin, the months of November to January, or May to July.

5. The professors of the University of Berlin who are sent to Harvard University receive from the latter for travelling and living expenses a compensation of \$1200 each; the professors of Harvard University, the same amount from the University of Berlin. In this arrangement it is assumed that the regular salary of the professors is continued.

AGE OF STUDENTS WHO ENTERED THE FRESHMAN CLASS OF HARVARD COLLEGE 1876—1905 INCLUSIVE.

Year	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29	29-30	30-31	31-35	35-46	Average Age.	No. adm.*
1876			12	58	60	53	20	7	2	2	1		1							18 yrs. 9 mos.	217
1877		2	16	52	80	53	23	9	6	3	1									18 " 9 1/2	245
1878		2	14	52	78	45	22	7	9		1									18 " 9 1/2	230
1879		1	16	49	86	53	19	15	4	1	1		1							18 " 11	248
1880		1	13	52	84	53	24	10	8	4	2		1							18 " 11 1/2	247
1881		3	10	38	78	55	31	9	8	1	1									19 "	230
1882	1	3	11	58	89	60	28	12	4	5	1	2						1		19 "	275
1883			17	65	100	61	28	7	7	2	2									18 " 9 1/2	285
1884	1		12	63	90	72	29	8	4	1	5	1								18 " 10 1/2	286
1885	2		10	68	99	56	40	6	4	4	1	2				1		1		19 " 14	281
1886		4	14	64	116	67	29	12	3	3	2	1								18 " 11 1/2	321
1887			8	71	108	87	26	7	12	2	2	3	2	2						19 " 2 1/2	338
1888		2	11	58	123	68	42	19	8	5	4	3	4	3						19 " 3 1/2	352
1889		1	14	68	124	96	32	12	5	9	9	1	2	4	3					19 " 7 1/2	388
1890	1	2	2	64	129	102	37	26	6	9	10	2	2	1	2					19 " 4 1/2	408
1891		2	24	82	141	97	40	17	13	7	7	3	4	1	1					19 " 2 1/2	441
1892		2	19	88	155	120	56	20	12	4	3	5	2							19 " 0 1/2	487
1893		2	7	100	162	102	47	20	7	7	6	4	1							19 " 1 1/2	467
1894	1	3	13	86	142	128	44	20	9	9	5	2	1	1	1					19 " 2 1/2	465
1895		3	20	99	155	111	42	19	13	7	6	4	4	1						19 " 0 1/2	517
1896		1	1	24	99	155	109	35	18	12	7	7	5	3						19 " 1 1/2	481
1897		1	27	120	181	121	51	28	17	6	9	2	1	3	1					19 " 1 1/2	571
1898		3	16	107	185	111	45	15	13	7	3	3	4							19 " 1 1/2	520
1899		2	25	111	188	126	32	24	15	13	8	4	2	2	2					19 " 1 1/2	554
1900		1	27	114	199	134	68	20	10	8	5	5	5	1	1					19 " 4	606
1901		1	27	118	176	130	64	26	12	4	6	7	1	3	3					19 " 2 1/2	578
1902		3	24	128	229	143	71	21	12	2	3	4	2	2	1					18 " 11 1/2	648
1903			28	116	196	119	64	16	6	8	3	2	2	1						18 " 11	563
1904		5	18	117	200	123	42	15	8	6	9	2	1	1						18 " 10 1/2	549
1905		1	20	102	165	108	29	11	5		1		1			1				18 " 9 1/2	444

* On the assumption that all who ever joined each class were admitted as Freshmen.

GENERAL REGULATIONS FOR THE ADMINISTRATION OF
THE NELSON ROBINSON JR. TRAVELLING FELLOWSHIP
IN ARCHITECTURE, AND THE JULIA AMORY APPLETON
FELLOWSHIP IN ARCHITECTURE.

These fellowships will ordinarily be offered for competition in alternate years, and the holders will on application be reappointed for a second year when they have done creditable work during the first year.

They are open for competition to Bachelors of Science in Architecture of Harvard University who have taken the degree *with distinction* or who have completed with distinction a year of graduate study in Architecture at the University.

The selection among those admitted to candidacy will be made on the results of a competitive examination in the history of architecture and in design, to be held in Cambridge in the month of April of each year.

In the history of architecture each candidate will be examined on a special period, to be selected by him in advance. Candidates must send notice of their choice of a period to the Professor of Architecture at least thirty days before the time set for the examination.

In the examination in design candidates will be required to present themselves at a specified time and place, where a problem will be proposed to them, and they will have eight hours for the preparation of preliminary sketches. These will be retained by the Department of Architecture for comparison with the final drawings. During the making of the preliminary sketches candidates will be under the supervision of an instructor of the Department. No persons other than the candidates, and officers of the University, will be permitted in the examination room during an examination. Candidates will be given three weeks in which to prepare the final drawings, and will be required to present with them a written statement that they have been prepared without aid, direct or indirect, from other persons. The facilities of the Department will be free to candidates during the time of preparation of the final drawings.

Applications must be sent to the Chairman of the Committee on Fellowships and Other Aids for Graduate Students before the first day of March of the year in which the candidates expect to present themselves for examination.

The candidate who receives the Fellowship will be required to spend at least one year in travel and study in Europe under the general direction of the Professor of Architecture. He will be required to submit monthly reports of his progress, and to send at the end of each half-year a measured drawing of some monument of architecture which must be approved by the Department. He will also be required to make, during his stay in Europe, a special study of a single building or group of buildings, and on his return must present a written essay illustrated by drawings, embodying the results of this study.

The award will be made on the nomination of the Department of Architecture acting in coöperation with a committee of practising architects invited by the Department of Architecture, with the approval of the President of the University, to assist in the award.

THE FUND OF THE CLASS OF 1846.

Boston, March 30, 1905.

TO THE PRESIDENT AND FELLOWS OF HARVARD COLLEGE: —

GENTLEMEN, — The Class of 1846 desires to transfer to you its Class Fund, amounting to ten thousand five hundred and seventy one and seven one hundredths dollars (\$10,571.07), to be held as the property of Harvard College on the following terms: —

First. — A separate account shall be kept by the Treasurer of the College with "The Fund of the Class of 1846," which account shall be credited with the sum above named and with such other sums as may be added thereto from time to time by said Class, or by any other person, in amounts of not less than one hundred dollars. Upon the death of the last surviving member of said Class the above named account shall be closed, and the amount then credited thereto, including accumulated income, shall be transferred and added to the amount then belonging to the Francis James Child Memorial Fund now held by the said College as part thereof thenceforth.

Second. — Until said account shall be closed as above provided, the amount standing to the credit of its capital account shall be invested at the discretion of the President and Fellows and share with other funds in the "General Investments" of the College.

Third. — The income received for the Fund of the Class of 1846 shall be credited annually to the account of said Fund, and the amount of income so credited shall be payable on demand to the Secretary of the Class, whose receipt therefor shall be full discharge to the President and Fellows for all sums paid to him. The Class Secretary shall not call for money oftener than once a year unless with the consent of the Treasurer of the College. All income not so called for within the fiscal year of the College following the date of its credit to the Class, shall be credited to, and become a part of, the principal of said Fund at the end of such year.

If at any time there shall be no Secretary of the Class of 1846, the Treasurer may in his discretion pay the income to any member or members of the Class of 1846, whose receipt therefor shall be a full discharge to the President and Fellows, who shall have no responsibility for the application of the money.

(Signed)

WM. S. DEXTER,
*Surviving Trustee of the Class
Fund of 1846.*

TABLE I.
ILLNESS REPORT, 1904-05.

Diseases.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Appendicitis . . . . .	..	5	2	5	1	4	4	5	6	..	32
Asthma . . . . .	..	2	2	1	1	2	..	..	..	..	8
Bronchitis . . . . .	..	15	10	13	9	6	6	3	6	..	68
Chicken-pox . . . . .	..	..	..	..	3	5	..	1	..	1	10
Colds—unclassified . .	..	45	80	54	102	45	78	44	28	1	477
Constipation . . . . .	..	1	1	1	3	..	2	..	1	..	9
Coryza . . . . .	..	11	31	23	13	4	5	1	1	..	89
Diarrhoea . . . . .	..	8	20	20	16	4	6	7	16	..	97
Diphtheria . . . . .	..	..	1	..	..	1	..	7	2	..	11
Ear, of the	1	..	3	8	7	2	8	2	1	..	32
Eye, of the . . . . .	..	13	51	29	23	18	53	45	42	4	278
General Debility . . .	1	8	16	13	9	5	11	11	12	1	87
Headache . . . . .	..	14	26	16	20	6	15	10	19	2	128
Indigestion . . . . .	..	43	68	58	37	10	44	32	38	5	335
Insomnia . . . . .	..	2	2	5	5	2	5	..	2	..	23
Jaundice . . . . .	..	3	2	1	1	..	1	6	..	..	14
La Grippe . . . . .	..	10	16	26	117	58	46	14	15	1	303
Laryngitis . . . . .	..	..	2	2	4	2	2	2	2	..	16
Malaria	1	4	11	..	2	1	2	2	6	..	29
Measles . . . . .	..	..	1	..	..	1	5	1	8	4	20
Miscellaneous	5	25	47	36	53	22	39	20	21	2	270
Mumps . . . . .	..	2	2	1	7	1	1	3	5	2	24
Neuralgia . . . . .	..	5	4	9	5	1	4	5	5	..	38
Pharyngitis . . . . .	..	10	20	21	20	14	25	16	16	2	144
Pneumonia . . . . .	..	..	1	..	1	2	1	..	..	..	5
Rheumatism . . . . .	..	1	4	2	3	2	6	9	3	..	30
Skin, of the . . . . .	..	9	8	5	5	1	..	2	8	2	40
Surgical	2	48	57	33	43	21	41	48	38	1	332
Teeth, of the . . . . .	..	11	8	7	7	4	5	5	9	..	56
Tonsillitis	2	15	29	29	23	14	12	15	20	2	161
Typhoid	2	3	5	..	..	..	..	..	..	..	10
Totals	14	313	530	418	540	258	427	316	330	30	3176

Visits 1273

Office consultations, medical 2048

.. .. surgical 990

Total number of consultations 4311

Calls on students not found in (not included in above) 119

Other cases not seen by the Medical Visitor 2095

TABLE II.

ILLNESS REPORT AS RELATED TO THE DIFFERENT SCHOOLS.

Diseases.	College.					Scientific.					Law.	Graduate.	Divinity.	Totals.
	1	2	3	4	Sp.	1	2	3	4	Sp.				
Appendicitis	3	9	5	7	..	1	..	1	1	..	3	1	1	32
Asthma . . . . .	..	2	4	1	..	..	..	..	..	1	..	..	..	8
Bronchitis	16	19	16	10	3	..	2	1	..	..	1	..	..	68
Chicken-pox	1	6	2	1	..	..	..	..	..	..	..	..	..	10
Colds, unclassified . .	133	141	77	53	27	8	7	8	8	12	2	1	..	477
Constipation	3	4	1	..	..	..	..	..	1	..	..	..	..	9
Coryza	22	31	13	7	7	3	1	2	1	2	..	..	..	89
Diarrhoea	21	34	15	11	6	1	1	3	4	1	..	..	..	97
Diphtheria	2	1	1	3	1	..	..	1	1	..	1	..	..	11
Ear, of the	11	14	6	..	..	..	..	..	..	1	..	..	..	32
Eye, of the	80	87	53	25	9	7	5	6	2	4	..	..	..	278
General Debility . . .	19	22	15	13	..	..	2	2	2	2	4	5	..	87
Headache	39	38	26	12	6	2	..	3	1	1	..	..	..	128
Indigestion	75	86	78	39	22	6	4	10	4	3	2	6	..	335
Insomnia . . . . .	..	11	5	2	..	..	..	2	2	..	1	..	..	23
Jaundice	5	2	4	1	1	..	..	..	..	..	..	1	..	14
La Grippe	71	108	59	26	9	3	10	3	2	7	3	2	..	303
Laryngitis	3	10	..	1	..	1	..	..	1	..	..	..	..	16
Malaria	3	14	4	4	2	..	1	..	..	..	1	..	..	29
Measles	6	5	1	2	2	..	..	..	3	..	1	..	..	20
Miscellaneous	84	64	61	27	12	3	4	..	4	4	5	2	..	270
Mumps	10	4	2	2	2	1	1	..	..	..	1	1	..	24
Neuralgia	10	6	9	6	2	2	1	..	..	1	..	1	..	38
Pharyngitis	36	45	27	7	5	1	6	4	6	5	2	..	..	144
Pneumonia . . . . .	..	1	..	1	1	..	1	..	..	..	1	..	..	5
Rheumatism	6	12	2	4	2	..	..	..	..	3	..	1	..	30
Skin, of the	7	6	5	5	..	1	7	1	1	..	2	5	..	40
Surgical	86	84	63	44	8	13	8	9	4	5	4	4	..	332
Teeth, of the	16	18	11	4	3	1	..	2	..	..	1	..	..	56
Tonsillitis	43	40	33	22	6	3	2	2	1	5	3	1	..	161
Typhoid	2	3	1	2	..	..	..	..	..	..	1	1	..	10
Totals	813	927	608	342	136	57	64	60	49	57	39	32	1	3176
No. of Students . . .	545	610	442	265	147	105	138	66	92	128	758	349	43	
% of "Sign-offs" . .	149	152	138	126	92	54	46	92	53	45	5	9	2	

STILLMAN INFIRMARY

LIST OF CASES, 1904-05

Adenitis	2	Measles	8
Abcess Tonsillar	5	Miscellaneous Medical	31
Appendicitis	22	" Surgical	27
Bronchitis	14	Mitral Stenosis	1
Carbuncle	1	Mumps	6
Chicken-pox	3	Otitis Media	3
Colds	12	Pharyngitis	10
Concussion — cerebral	3	Pleuritis with effusion	8
Conjunctivitis infectious	2	Pneumonia	3
Cystitis	1	Rheumatism	7
Debility	6	Septicaemia	1
Diphtheria	5	Septic elbow	1
Endocarditis	3	" foot	6
Fracture — Colles	1	" hand	2
" of jaw	1	" leg	2
" of metatarsus	2	Sprain of ankle	2
" of skull and sternum	1	" ankle and knee	1
Gastritis	3	" foot	1
Gastric ulcer	1	Synovitis of knee	6
Herpes Zoster	1	Tonsillitis	26
Insomnia	2	Typhoid Fever	5
Jaundice	8	Warts on foot, operations for	17
La Grippe	95	No diagnosis	9
Laryngitis	3		
Malaria	2	Total	377

Room patients	113
Ward patients	264
Total	377

Discharged—well	254
" relieved	117
" not relieved	2
Died	4
Total	377

Total number of hospital days	2631
Daily average	9.63

REPORT OF THE SECRETARY FOR APPOINTMENTS.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—I have the honor to submit to you a report of the work of the Appointments Office for the year ending October 1, 1905.

There are now registered with the Office 3,150 persons against 2,419 at the end of the year 1904,—an increase of 631. During the year 1904–05, as heretofore, there have been more calls on the University for teachers than for men to fill business or technical positions. So far as reported to the Office, there have been 734 calls for teachers, 561 of which came direct from schools, colleges, or universities, and 173 through teachers' agencies. There have been 182 calls from business houses. The total demand for men to fill permanent positions has been 916. The total demand for men to do temporary work has been 985. The total demand for men to do permanent and temporary work has been 1901.

The following tables show the number of permanent positions filled, report of which has been made to the Office. Of these there were 245.

PERMANENT TEACHING POSITIONS.

Universities or Colleges	78	Public High Schools	22
Technical Schools	6	Government School (Japan) . . .	1
Normal Schools	2	George Junior Republic	1
Military Academies	3	Tutors or Companions for one year	20
Private Schools, Endowed Schools, Academies, Seminaries	45	Tutors for Schools for one year .	3
		Total	176

ADMINISTRATIVE POSITIONS (EDUCATIONAL).

Superintendents of Schools	2
Head-masters or Principals	10
Sub-master	1
Total	13

BUSINESS POSITIONS.

Banking houses	9	Secretaries	3
Manufacturing concerns	5	Telephone Companies	2
Importer (coffee, spices, etc.) . .	1	Total	21
Railroad Company	1		

BUSINESS POSITIONS (TECHNICAL).

Secured by the Departments direct.

Astronomical Laboratory	1	Electricians	15
Bureau Plant Industry	1	Mining Engineers and Metallurgists	10
Chemists	8	Total	35

Total permanent positions 245

TEMPORARY.

Advertisement Writer	1	Musicians	3
Agents	5	News Editor	1
Athletic Coaches	2	Night School Teachers	14
Attendants	5	Outing Class Directors	3
Book-keeper	1	Proctors (special)	76
Caretaker	1	Public Speaker	1
Chair-carer	1	Readers	8
Chemist	1	Rooms in exchange for Services	6
Choremen	39	Settlement Workers	8
Clerks	153	Snow Shovellers	5
Collectors	73	Stenographers	18
Electric Railroad Employees	2	Stereopticon Operators	2
Elevator Man	1	Store Clerks	27
Farm Hands	12	Summer Camp	6
Furnace Tenders	6	Supervisors of Study	14
Gas Meter Readers	21	Ticket Takers	53
Guards	32	Translators	5
Guides	52	Tutors in Special Subjects	131
Hotel Help	12	Tutors or Companions	40
Janitor	1	Typewriters	9
Lecturers	2	Waiters	5
Library Attendant	1	Total	873
Library Research Worker	1		
Messengers	12	Total permanent and temporary	
Mining Assistant	1	positions	1118

This table shows the demands on various Departments of the University for teachers in single subjects:—

Classics	26	Psychology	2
Sanskrit	1	Philosophy	2
English	20	Education	1
French	3	Mathematics	12
German	4	Engineering	2
Spanish	1	Physics	2
Modern Languages	5	Chemistry	9
Romance Languages	10	Biology	3
History	12	Geology	4
Economics	3	Total	123
Law	1		

This table shows the number of men supplied to teach combined subjects:

Latin, English, History	1	Logic, Psychology	1
Latin, German	1	Psychology, Education	1
Latin, Science, Athletics	1	Mathematics, English, History	1
English, Athletics	1	Science, Mathematics	2
English, Classics	1	Science, Mathematics, Latin	1
English, French, German, Mathematics	1	General Science	4
English, French, History, Algebra	1	Physics, Chemistry, Athletics	1
English, History	1	Chemistry, Physics	2
German, English (Debate), House		General Teachers	8
Proctor	1	Total	30

	Universities or Colleges.	Technical Schools.	Normal Schools.	Military Academies.	Priv. or Endowed Schools, Academies, Seminaries.	Public Schools.	Government Schools.	George Junior Republic.	Tutors or Companions for 1 year.	Tutors for Schools.	Superintendent.	Head-master or Principal.	Sub-principal.	Business.	Business — Technical.	Totals for States.
NORTH ATLANTIC DIVISION:																
Maine	2	..	..	..	1	1	..	..	..	..	..	2	..	..	..	6
New Hampshire	1	..	..	1	5	..	..	..	1	..	..	2	..	..	..	10
Vermont	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Massachusetts	10	..	..	1	10	10	..	..	5	3	1	2	..	14	6	62
Rhode Island	1	..	..	..	3	..	..	..	..	..	..	..	..	..	1	5
Connecticut	1	..	..	..	8	..	..	..	..	..	..	2	1	..	..	13
New York	6	1	..	..	6	1	..	1	3	..	..	..	..	5	9	32
New Jersey	5	..	..	..	1	1	..	..	1	..	..	..	..	..	2	10
Pennsylvania	8	..	1	1	4	3	..	..	..	..	..	..	..	..	2	19
SOUTH ATLANTIC DIVISION:																
Maryland . . . . .	..	..	..	..	1	..	..	..	..	..	..	1	..	..	1	3
District of Columbia	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3
North Carolina . . . . .	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Georgia . . . . .	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	2
NORTH CENTRAL DIVISION:																
Ohio	9	2	..	..	1	..	..	..	..	..	..	..	..	..	2	14
Indiana	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Illinois	4	2	..	..	..	..	..	..	..	..	1	1	..	..	..	8
Michigan	1	..	..	..	..	..	..	..	..	..	..	..	..	..	3	4
Wisconsin	4	..	..	..	..	1	..	..	..	..	..	..	..	..	..	5
Minnesota . . . . .	..	1	..	..	..	1	..	..	1	..	..	..	..	..	..	3
Missouri	2	..	..	..	..	2	..	..	..	..	..	..	..	..	3	7
North Dakota	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
South Dakota . . . . .	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	2
Nebraska	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Kansas	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
SOUTH CENTRAL DIVISION:																
Kentucky . . . . .	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	2
Alabama	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Louisiana . . . . .	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
WESTERN DIVISION:																
Montana . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2
Colorado . . . . .	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
Arizona . . . . .	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1
Utah	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	3
Washington	3	..	..	..	1	..	..	..	..	..	..	..	..	..	..	4
California	4	..	..	..	1	..	..	..	..	..	..	..	..	..	..	5
PHILIPPINE ISLANDS																
CUBA . . . . .	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1
EUROPE (or general travel) . . . . .	..	..	..	..	..	..	..	..	5	..	..	..	1	..	..	6
JAPAN . . . . .	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Total positions	73	6	2	3	45	22	1	1	20	3	2	10	1	21	35	

The preceding table shows the geographical distribution of the permanent teaching, educational, and business positions filled.

The salaries of 199 of the 245 permanent positions aggregate \$232,349. These are divided as follows:—

	Salaries.	Number of positions.
Colleges and Universities	\$72,730	65
Secondary Schools	98,260	84
Tutoring (approximately)	42,300	21
Business	24,159	29
Total	\$232,349	199

An approximate estimate of the salaries of the 46 persons who did not make report to the Office is \$35,000.

The foregoing tables show the positions secured through the coöperation of the Departments of the University with the Appointments Office. The increase this year over last, both in the number of permanent and temporary positions filled, is accounted for in two ways: first, by the fact that it has been possible to keep better records than heretofore of the positions secured; and secondly, by the fact that as the work of the Appointments Office becomes better known, the opportunities naturally increase.

HENRY S. THOMPSON,
Secretary for Appointments.

PUBLICATIONS OF THE MUSEUM OF COMPARATIVE ZOOLOGY FOR THE ACADEMIC YEAR 1904-05.

Bulletin:—

Vol. XLII.

No. 6. The Sand Plains of Glacial Lake Sudbury. By JAMES WALTER GOLDTHWAIT. 41 pp. 5 Plates. May, 1905.

Vol. XLIII.

No. 2. Reports on the Dredging Operations off the West Coast of Central America to the Galapagos, to the West Coast of Mexico, and in the Gulf of California, in Charge of Alexander Agassiz, carried on by the U. S. Fish Commission Steamer "Albatross," during 1891, Lieut. Commander Z. L. Tanner, U. S. N., Commanding. XXXIII. Stein- und Hydro-Korallen. Von EMIL VON MARENZELLER. 16 pp. 3 Plates. August, 1904.

No. 3. Reports on the Dredging Operations off the West Coast of Central America to the Galapagos, to the West Coast of Mexico, and in the Gulf of California, in Charge of Alexander Agassiz, carried on by the U. S. Fish Commission Steamer "Albatross," during 1891, Lieut. Commander Z. L. Tanner, U. S. N., Commanding. XXXIV. Lagisca

irritans, sp. nov., ein Symbiont von Hydrokorallen. Von EMIL VON MARENZELLER. 6 pp. 1 Plate. August, 1904.

Vol. XLV.

No. 4. Contributions from the Zoölogical Laboratory. No. 157. The Maturation, Fertilization, and Early Cleavage of *Haminea solitaria* (Say). By W. M. SMALLWOOD. 60 pp. 13 Plates. December, 1904.

Vol. XLVI.

No. 2. Maldive Cephalochordates, with the Description of a New Species from Florida. By G. H. PARKER. 16 pp. 2 Plates. November, 1904.

No. 3. Batrachia and Reptilia from the Bahamas. By THOMAS BARBOUR. 10 pp. December, 1904.

No. 4. Three Letters from Alexander Agassiz to the Hon. George M. Bowers, United States Fish Commissioner, on the Cruise, in the Eastern Pacific, of the U. S. Fish Commission Steamer "Albatross," Lieut. Commander L. M. Garrett, U. S. N., Commanding. 22 pp. April, 1905.

No. 5. The Vertebrata of Gorgona Island, Colombia. By OUTRAM BANGS, THOMAS BARBOUR, WILMOT W. BROWN, Jr., and JOHN E. THAYER. 18 pp. June, 1905.

No. 6. Reports on the Scientific Results of the Expedition to the Eastern Tropical Pacific, in Charge of Alexander Agassiz, by the U. S. Fish Commission Steamer "Albatross," from October, 1904, to March, 1905, Lieut. Commander L. M. Garrett, U. S. N., Commanding. II. Description of a New Genus of Isopods, Typical of a Peculiar Family. By HARRIET RICHARDSON. 4 pp. 1 Plate. July, 1905.

Vol. XLVII.

Nemerteans of the West and Northwest Coasts of America. By WESLEY R. COE. 318 pp. 25 Plates. March, 1905.

Memoirs : —

Vol. XXV.

No. 2. Cleiocrinus. By FRANK SPRINGER. 24 pp. 1 Plate. January, 1905.

Vol. XXXI.

Reports on an Exploration off the West Coasts of Mexico, Central and South America, and off the Galapagos Islands, in Charge of Alexander Agassiz, by the U. S. Fish Commission Steamer "Albatross," during 1891, Lieut. Commander Z. L. Tanner, U. S. N., Commanding. XXXII. The Panamic Deep Sea Echini. By ALEXANDER AGASSIZ. 10, 243 pp. 112 Plates. November, 1904.

Vol. XXXII.

Reports on an Exploration off the West Coasts of Mexico, Central and South America, and off the Galapagos Islands, in Charge of Alexander Agassiz, by the U. S. Fish Commission Steamer "Albatross," during

1891, Lieut. Commander Z. L. Tanner, U. S. N., Commanding. XXXV. Reports on the Scientific Results of the Expedition to the Tropical Pacific, in Charge of Alexander Agassiz, on the U. S. Fish Commission Steamer "Albatross," from August, 1899, to March, 1900, Commander Jefferson F. Moser, U. S. N., Commanding. VII. Asteroidea. By HUBERT LUDWIG. 12, 292 pp. 36 Plates. July, 1905.

Report:—

1903-04. 35 pp. December, 1905.

ORDINARY DEGREES CONFERRED, 1901-05.

	1901.	1902.	1903.	1904.	1905.
Bachelors of Arts	457	422	511	459	427
Bachelors of Arts out of course	26	32	42	38	44
Bachelors of Science	75	76	101	77	91
Bachelors of Science out of course	4	7	5	7	16
Bachelors of Divinity	2	5	4	7	7
Bachelors of Divinity out of course	0	1	1	1	0
Bachelors of Laws	136	146	157	169	170
Bachelors of Laws out of course	9	16	6	13	13
Bachelors of Agricultural Science	2	5	6	8	1
Doctors of Medicine	116	130	109	131	82
Doctors of Medicine out of course	4	1	3	4	2
Doctors of Dental Medicine	29	32	27	25	32
Doctors of Veterinary Medicine	6	0	0	0	0
Doctors of Veterinary Medicine out of course	1	1	0	0	0
Masters of Arts	119	110	117	157	131
Masters of Arts out of course	6	10	8	5	12
Masters of Science	7	8	6	2	4
Masters of Science out of course	8	0	1	0	1
Doctors of Philosophy	29	28	28	46	39
Doctors of Science	0	3	1	1	0
Metallurgical Engineer	0	0	0	0	1
Totals	1081	1033	1133	1145	1073

Table of Schools and Colleges from which young men actually entered Harvard College from 1896 to 1905 inclusive, with the number that entered from each institution in each year. Special students are not included. An asterisk (*) indicates a public school, a dagger (†) a school known to be endowed.

SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
*Abington High School . . . . .	.	.	.	.	.	2	.	1		
†Academy of the Univ. of Chicago, Morgan Park, Ill.	2	3	1	.	1	.	.	1		
Acadia College, Wolfville, N. S.	2	3	1	2	1	1	.	2	1	
†Adams Academy, Quincy	6	1	3	1	1	1	3	1	2	
*Adams High School . . . . .	.	1	.	.	.	.	.	.	.
†Adelphi Academy, Brooklyn, N. Y. . . . .	.	1	.	2	1	.	.	.	.
Adirondack-Florida School, N. Y. and Fla. . . . .	.	.	.	.	.	.	.	.	1	
*Afton, N. Y., High School . . . . .	.	.	.	.	.	1	.	.	.	
Agricultural College of Utah, Logan, Utah . . . . .	.	.	.	.	.	.	1	.	.	
Alabama Polytechnic Institute, Auburn, Ala. . . . .	.	.	.	.	.	.	1	.	.	
†Albany Academy, Albany, N. Y.	1	1	1	4	.	1	1	.	.	
*Albany, N. Y., High School . . . . .	.	.	.	1	1	1	2	.	.	
Albion College, Albion, Mich. . . . .	.	.	.	.	1	1	.	.	.	
Allen School, New York, N. Y. . . . .	.	.	.	.	.	.	.	1	1	
Allen School, West Newton . . . . .	.	.	.	.	2	1	1	3	1	
†A. M. Chesbrough Seminary, No. Chili, N. Y. . . . .	.	.	.	.	.	1	.	.	.	
*Amesbury High School . . . . .	.	.	1	.	.	.	.	.	.
Amherst College, Amherst	1	2	3	.	.	3	.	.	.	
Anglo-American College, Paris, France . . . . .	.	.	.	1	1	.	.	.	.
†Appleton Academy, New Ipswich, N. H. . . . .	.	.	.	1	.	.	.	.	.
*Arlington High School	1	2	2	1	1	1	1	3	3	
*Ashbourne, Pa., Cheltenham High School . . . . .	.	.	.	.	.	.	1	.	.	
Asheville School, Asheville, N. C. . . . .	.	.	.	.	.	.	1	.	.	
*Athol High School . . . . .	.	.	.	.	.	.	1	.	.	
*Atlantic City, N. J., High School . . . . .	.	.	.	.	.	.	.	.	1	
*Auburn, Me., Edward Little High School	1	1	.	.	.	.	.	.	.
*Auburn, N. Y., Academic High School . . . . .	.	.	.	.	2	.	1	.	.	
*Augusta, Me., Cony High School . . . . .	.	.	.	1	.	1	.	.	.	
Augustana College, Rock Island, Ill. . . . .	.	.	1	.	.	.	.	.	.
*Ayer High School . . . . .	.	.	.	.	.	.	.	.	1	
Ballou & Hobigand School, Boston . . . . .	.	.	.	.	.	.	.	.	1	
Baltimore, Md., Boys' Latin . . . . .	.	.	.	.	1	.	1	.	.	
*Bangor, Me., High School	1	.	.	.	.	1	.	.	.	
Barnard School, New York, N. Y. . . . .	.	.	.	.	.	1	.	.	.	
Barnard School, St. Paul, Minn. . . . .	.	.	.	1	.	.	.	.	.
*Barre High School	1	.	1	.	.	.	.	.	.
Bates College, Lewiston, Me. . . . .	.	2	1	1	.	1	1	1	.	
Baylor's University School, Chattanooga, Tenn. . . . .	.	.	.	.	1	.	.	.	.
*Beaver, Pa., High School . . . . .	.	.	1	.	.	.	.	.	.
*Belfast, Me., High School . . . . .	.	.	.	.	.	1	.	.	.	
*Belmont High School	2	1	.	.	.	1	2	1	1	
Belmont School, Belmont, Cal.	1	1	2	.	1	6	1	.	1	1
Belmont School, Belmont	3	4	1	1	.	.	.	.	.
Beloit College, Beloit, Wis. . . . .	.	.	1	.	.	1	.	.	.	
Berea College, Berea, Ky. . . . .	.	.	.	.	.	1	.	.	.	
Berkeley School, Boston	1	.	.	.	.	.	.	.	.
Berkeley School, New York, N. Y. . . . .	.	1	.	1	1	3	2	.	.	

SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Berkeley School, Poughkeepsie, N. Y.	1									
Berwick Academy, South Berwick, Me.		2				1				
Bethany College, Lindsborg, Kan.					1				2	
Betts Academy, Stamford, Conn.										
*Beverly High School					1	1	1		1	1
*Biddeford, Me., High School							1			
*Binghamton, N. Y., Central High School										1
*Bismarck, N. D., High School						1				
Blake School, New York, N. Y.	1		3				2			
Blees Military Academy, Macon, Mo.										1
Blinn Memorial College, Brenham, Tex.				1						
*Bloomington, Ill., High School							2			
Bordentown Military Institute, Bordentown, N. J.									1	
Boston College, Boston		1		1		1				
*Boston English High School	3	3	4	2	4	3	6	10	8	3
*Boston Latin School	21	39	36	35	38	31	32	28	27	29
Boston University, Boston			1	1	3	1				
*Bourne High School							1			
Bowdoin College, Brunswick, Me.				2	1					
†Bradley Polytechnic School, Peoria, Ill.								1		
Bradstreet School, Rochester, N. Y.			1	1	1	1		1		
†Brewster Free Academy, Wolfboro, N. H.			1			3	1			1
*Bridgewater High School	1				6	2	1	1	2	
*Bridgewater State Normal School				1		1				
Bridgton Academy, Bridgton, Me.				1						
†Brigham Academy, Bakersfield, Vt.										1
†Bristol Academy, Taunton		1								1
*Brockport, N. Y., State Normal School	1						1			
*Brockton High School			1	1	1					1
*Brookfield High School										1
*Brookline High School	5	6	2	3	3	4	8	8	8	6
*Brooklyn, N. Y., Boys' High School	4	1	2	3	3	1	1	4	3	
*Brooklyn, N. Y., Erasmus Hall High School										
Brooklyn, N. Y., Latin School		1								1
†Brooklyn, N. Y., Pratt Institute High School					1		4			
Brooklyn Polytechnic Institute, Brooklyn, N. Y.		1		3						
Brooklyn Poly. Prep. School, Brooklyn, N. Y.	3	1	2	1	1	2	1	1	4	
Brown University, Providence, R. I.		1			1		1	2		2
Browne & Nichols Private School, Cambridge	4	7	5	12	6	10	9	14	8	3
Browning School, New York, N. Y.						3	1	2	1	
*Brushton, N. Y., High School										1
Bucknell University, Lewisburg, Pa.				2			1		2	
*Buffalo, N. Y., Central High School	2	2	3	1		2	2		2	2
*Buffalo, N. Y., Lafayette High School										1
*Buffalo, N. Y., Masten Park High School						2		1	3	1
*Calais, Me., High School				1						
*Cambridge Latin School	16	20	16	14	21	24	20	21	17	21
*Cape Vincent, N. Y., High School					1					
Cardwell's School, Paris, France	1									
Carleton School, Bradford	1									
Carrollton Preparatory School, Charlestown								1		
Carteret Academy, Orange, N. J.				1					1	
Carteret School, Short Hills, N. Y.										
*Carthage, N. Y., High School						1				
*Cedar Rapids, Iowa, High School								1		
Centenary Collegiate Inst., Hackettstown, N. Y.									2	
Centre College, Danville, Ky.		1								
*Charlestown High School						1				

SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Chateau de Lancy, Geneva, Switzerland		1								
Chauncy Hall School, Boston	2	3	2	1			1			
*Chelsea High School	4	3	3	3	2	2	4	4	3	3
Chestnut Hill Academy, Chestnut Hill, Pa.								1		1
*Chicago, Ill., Englewood High School		1								
*Chicago, Ill., John Marshall High School						1				
*Chicago, Ill., Lake View High School									2	
Chicago, Ill., Latin School				2	2		5	2		3
*Chicago, Ill., North Division High School					1					
*Chicago, Ill., North West Division High School						1				
*Chicago, Ill., R. A. Waller High School								1		1
*Chicago, Ill., West Division High School									1	
*Chicopee High School						1	3			1
Choate School, Wallingford, Conn.				1				1		
*Cincinnati, O., Hughes High School				2			1	1		
*Cincinnati, O., Walnut Hills High School		1			2	3	1			
*Cincinnati, O., Woodward High School		1					2	2	1	1
*Claremont, N. H., Stevens High School				1					1	
*Cleveland, O., Central High School	3	3	3	2	3	5	2			1
*Cleveland, O., East High School								1	1	
*Cleveland, O., South High School			1		2			1		
*Cleveland, O., West High School					1					
*Clinton High School	2					1	2			
Cloyne House School, Newport, R. I.		1					2	2		
Coburn Classical Inst., Waterville, Me.								1		
Colby College, Waterville, Me.	1				2	2		1		
†Colgate Academy, Hamilton, N. Y.					1		1			
College of Charleston, Charleston, S. C.					1					
College of the City of New York, New York, N. Y.			1	3			1			
College Preparatory School, Wilmington, Del.				1						
†Collegiate School, New York, N. Y.								1		1
Collegiate School, Windsor, N. S.								1		
*Colorado Springs, Colo., High School	1								1	
Columbia Grammar School, New York, N. Y.	1							1		
Columbia Inst., New York, N. Y.			1							
*Columbia, Pa., High School								1		
Columbia University, New York, N. Y.		1							1	
Columbian University, Washington, D. C.		2	1	1	2	1				
Columbus, O., Latin School			1							
*Concord High School	6	1	3	1	1	2	2	1	3	1
*Concord, N. H., High School	2	2	1		1		2			1
Concord School	2									1
†Cook Academy, Montour Falls, N. Y.								1		
Cornell College, Mount Vernon, Ia.							1			
Cornell University, Ithaca, N. Y.	1						1	3	1	
Country School for Boys, Baltimore, Md.									1	
*Coxsackie, N. Y., High School									1	
†Cushing Academy, Ashburnham				1			1			
†Cutler Academy, Colorado Springs, Colo.			1					1		
Cutler Private School, Newton	2		3	3		3			1	1
Cutler Private School, New York, N. Y.	8	6	8	4	9	3	5	4	5	5
Dalhousie College, Halifax, N. S.			1		1		1			
Dalzell Private School, Worcester	2	1				1				
*Danvers, Holten High School					1			2	2	
Dartmouth College, Hanover, N. H.		1		2	1			1		1
*Davenport, Ia., High School					1			1		
*Dayton, O., Steele High School						1		1		
†Dean Academy, Franklin			1				3			

SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Berkeley School, Poughkeepsie, N. Y.	1									
Berwick Academy, South Berwick, Me.		2				1				
Bethany College, Lindsborg, Kan.					1				2	
Betts Academy, Stamford, Conn.				1						
*Beverly High School				1	1	1			1	1
*Biddeford, Me., High School						1				
*Binghamton, N. Y., Central High School										1
*Bismarck, N. D., High School						1				
Blake School, New York, N. Y.	1	3				2				
Blees Military Academy, Macon, Mo.										1
Blinn Memorial College, Brenham, Tex.				1						
*Bloomington, Ill., High School						2				
Bordentown Military Institute, Bordentown, N. J.								1		
Boston College, Boston	1			1		1				
*Boston English High School	3	3	4	2	4	3	6	10	8	3
*Boston Latin School	21	39	36	35	38	31	32	28	27	29
*Boston University, Boston			1	1	3	1				
*Bourne High School						1				
Bowdoin College, Brunswick, Me.			2	1						
†Bradley Polytechnic School, Peoria, Ill.							1			
Bradstreet School, Rochester, N. Y.			1	1	1	1		1		
†Brewster Free Academy, Wolfboro, N. H.			1		3	1				1
*Bridgewater High School	1			6	2	1	1	2		
*Bridgewater State Normal School			1		1					
Bridgton Academy, Bridgton, Me.			1							
†Brigham Academy, Bakersfield, Vt.									1	
†Bristol Academy, Taunton		1							1	
*Brockport, N. Y., State Normal School	1					1				
*Brockton High School		1	1	1					1	
*Brookfield High School								1		
*Brookline High School	5	6	2	3	3	4	8	8	3	6
*Brooklyn, N. Y., Boys' High School	4	1	2	3	3	1	1	4	3	
*Brooklyn, N. Y., Erasmus Hall High School						1				
Brooklyn, N. Y., Latin School		1							1	
†Brooklyn, N. Y., Pratt Institute High School				1		4				
Brooklyn Polytechnic Institute, Brooklyn, N. Y.		1	3							
Brooklyn Poly. Prep. School, Brooklyn, N. Y.	3	1	2	1	1	2	1	1	4	
Brown University, Providence, R. I.	1	1		1	1	2				2
Browne & Nichols Private School, Cambridge	4	7	5	12	6	10	9	14	8	3
Browning School, New York, N. Y.						3	1	2	1	
*Brushton, N. Y., High School									1	
Bucknell University, Lewisburg, Pa.			2			1		2		
*Buffalo, N. Y., Central High School	2	2	3	1		2	2		2	2
*Buffalo, N. Y., Lafayette High School										1
*Buffalo, N. Y., Masten Park High School						2		1	3	1
*Calais, Me., High School				1						
*Cambridge Latin School	16	20	16	14	21	24	20	21	17	21
*Cape Vincent, N. Y., High School					1					
Cardwell's School, Paris, France	1									
Carleton School, Bradford	1									
Carrollton Preparatory School, Charlestown							1			
Carteret Academy, Orange, N. J.									1	
Carteret School, Short Hills, N. Y.			1							
*Carthage, N. Y., High School					1					
*Cedar Rapids, Iowa, High School							1			
Centenary Collegiate Inst., Hackettstown, N. Y.									2	
Centre College, Danville, Ky.	1									
*Charlestown High School					1					

SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Chateau de Lancy, Geneva, Switzerland . . . . .	.	1	.	.	.	.	.	.	.	.
Chauncy Hall School, Boston	2	3	2	1	.	.	1	.	.	3
*Chelsea High School	4	3	3	3	2	2	4	4	3	3
Chestnut Hill Academy, Chestnut Hill, Pa. . . . .	.	.	.	.	.	.	1	.	1	.
*Chicago, Ill., Englewood High School . . . . .	.	1	.	.	.	.	.	.	.	.
*Chicago, Ill., John Marshall High School . . . . .	.	.	.	.	1	.	.	.	.	.
*Chicago, Ill., Lake View High School . . . . .	.	.	.	.	.	.	.	2	.	.
Chicago, Ill., Latin School . . . . .	.	.	2	2	.	5	2	.	3	.
*Chicago, Ill., North Division High School . . . . .	.	.	.	1	.	.	.	.	.	.
*Chicago, Ill., North West Division High School . . . . .	.	.	.	.	1	.	.	.	.	.
*Chicago, Ill., R. A. Waller High School . . . . .	.	.	.	.	.	.	1	.	1	.
*Chicago, Ill., West Division High School . . . . .	.	.	.	.	.	.	.	1	.	.
*Chicopee High School . . . . .	.	.	.	.	1	3	.	.	1	.
Choate School, Wallingford, Conn. . . . .	.	.	1	.	.	.	1	.	.	.
*Cincinnati, O., Hughes High School . . . . .	.	.	2	.	.	1	1	.	.	.
*Cincinnati, O., Walnut Hills High School	1	.	.	2	3	1	.	.	.	.
*Cincinnati, O., Woodward High School	1	.	.	.	.	2	2	1	1	.
*Claremont, N. H., Stevens High School . . . . .	.	.	1	.	.	.	.	1	.	.
*Cleveland, O., Central High School	3	3	3	2	3	5	2	.	1	.
*Cleveland, O., East High School . . . . .	.	.	.	.	.	.	1	1	.	.
*Cleveland, O., South High School . . . . .	.	1	.	2	.	.	1	.	.	.
*Cleveland, O., West High School . . . . .	.	.	.	1	.	.	.	.	.	.
*Clinton High School	2	.	.	.	1	2	.	.	.	.
Cloyne House School, Newport, R. I. . . . .	.	1	.	.	.	2	2	.	.	.
Coburn Classical Inst., Waterville, Me. . . . .	.	.	.	.	.	.	1	.	.	.
Colby College, Waterville, Me.	1	.	.	2	2	.	1	.	.	.
†Colgate Academy, Hamilton, N. Y. . . . .	.	.	.	1	.	1	.	.	.	.
College of Charleston, Charleston, S. C. . . . .	.	.	1	.	.	.	.	.	.	.
College of the City of New York, New York, N. Y. . . . .	.	1	3	.	.	1	.	.	.	.
College Preparatory School, Wilmington, Del. . . . .	.	.	1	.	.	.	.	.	.	.
†Collegiate School, New York, N. Y. . . . .	.	.	.	.	.	.	1	.	1	.
Collegiate School, Windsor, N. S. . . . .	.	.	.	.	.	.	1	.	.	.
*Colorado Springs, Colo., High School	1	.	.	.	.	.	.	1	.	.
Columbia Grammar School, New York, N. Y.	1	.	.	.	.	.	1	.	.	.
Columbia Inst., New York, N. Y. . . . .	.	1	.	.	.	.	.	.	.	.
*Columbia, Pa., High School . . . . .	.	.	.	.	.	.	1	.	.	.
Columbia University, New York, N. Y.	1	.	.	.	.	.	1	1	.	.
Columbian University, Washington, D. C.	2	1	1	2	1	.	.	.	.	.
Columbus, O., Latin School . . . . .	.	1	.	.	.	.	.	.	.	.
*Concord High School	6	1	3	1	1	2	2	1	3	1
*Concord, N. H., High School	2	2	1	.	1	.	2	.	1	1
Concord School	2	.	.	.	.	.	.	.	1	.
†Cook Academy, Montour Falls, N. Y. . . . .	.	.	.	.	.	.	1	.	.	.
Cornell College, Mount Vernon, Ia. . . . .	.	.	.	.	.	1	.	.	.	.
Cornell University, Ithaca, N. Y.	1	.	.	.	.	1	3	1	.	.
Country School for Boys, Baltimore, Md. . . . .	.	.	.	.	.	.	.	1	.	.
*Coxsackie, N. Y., High School . . . . .	.	.	.	.	.	.	.	1	.	.
†Cushing Academy, Ashburnham . . . . .	.	.	1	.	.	1	.	.	.	.
†Cutler Academy, Colorado Springs, Colo. . . . .	.	1	.	.	.	.	1	.	.	.
Cutler Private School, Newton	2	3	3	.	3	.	1	1	.	.
Cutler Private School, New York, N. Y.	8	6	8	4	9	3	5	4	5	5
Dalhousie College, Halifax, N. S. . . . .	.	1	.	1	.	1	.	.	.	.
Dalzell Private School, Worcester	2	1	.	.	1	.	.	.	.	.
*Danvers, Holten High School . . . . .	.	.	.	.	1	.	.	2	2	.
Dartmouth College, Hanover, N. H. . . . .	.	1	2	1	.	.	.	1	.	1
*Davenport, Ia., High School . . . . .	.	.	.	1	.	1	1	.	.	.
*Dayton, O., Steele High School . . . . .	.	.	.	.	1	.	1	.	.	.
†Dean Academy, Franklin . . . . .	.	1	.	.	.	3	.	.	.	.

SCHOOL OR COLLEGE.	1886.	1887.	1888.	1889.	1890.	1901.	1902.	1903.	1904.	1905.
Dearborn-Morgan School, Orange, N. J.	1	.	.	1	.	.	.	.	.	.
*Dedham High School	1	1	.	2	2	.	.	1	.	2
Deichmann School, Baltimore, Md. . . . .	.	.	2	.	.	.	.	.	.	.
DeLancey School, Philadelphia, Pa.	2	1	3	4	5	2	5	2	3	.
De Merritte School, Boston . . . . .	.	.	.	.	.	.	.	.	.	1
Denison University, Granville, O. . . . .	.	.	1	.	.	.	.	.	.	.
*Denver, Colo., East Side High School . . . . .	.	.	.	.	.	.	2	.	1	.
Denver, Colo., Normal and Preparatory School . . . . .	.	.	.	.	.	1	.	.	.	.
De Pauw University, Greencastle, Ind.	1	1	.	.	.	.	.	.	.	.
*Detroit, Mich., Central High School . . . . .	.	.	1	.	.	.	.	.	.	.
Dickinson College, Carlisle, Pa. . . . .	.	1	3	.	.	1	.	.	.	.
*Dorchester High School	1	2	2	.	1	.	1	3	2	.
Dr. Holbrook School, Ossining, N. Y. . . . .	.	1	1	.	.	.	.	.	.	.
Drisler School, New York, N. Y. . . . .	.	.	.	.	1	.	.	1	.	.
Drury College, Springfield, Mo. . . . .	.	1	.	.	.	.	1	.	.	.
*Duluth, Minn., Central High School . . . . .	.	.	.	.	.	.	1	.	1	1
†Dummer Academy, South Byfield . . . . .	.	1	2	.	5	1	3	1	.	.
Dwight School, New York, N. Y.	1	.	.	.	.	.	.	.	.	.
Earlham College, Richmond, Ind.	2	1	.	1	1	.	1	.	.	.
*East Boston High School . . . . .	.	.	.	.	.	2	1	1	2	.
*East Bridgewater High School . . . . .	.	.	1	.	.	.	.	.	.	.
†East Maine Conference Seminary, Bucksport, Me.	1	.	.	.	.	.	.	.	.	.
*Easton High School, North Easton . . . . .	.	.	.	.	1	.	.	.	.	.
*East Orange, N. J., High School . . . . .	.	.	1	.	1	.	.	.	1	.
Eayrs Private School, Boston . . . . .	.	.	1	.	2	.	.	.	.	.
*Elmira Free Academy, Elmira, N. Y. . . . .	.	.	.	.	1	.	.	.	.	.
Emerson Institute, Washington, D. C. . . . .	.	.	.	1	.	.	.	.	.	.
Emory College, Oxford, Ga. . . . .	.	.	.	2	.	1	.	.	.	.
†Episcopal Academy, Philadelphia, Pa.	1	.	.	.	.	1	1	3	2	.
Episcopal High School, near Alexandria, Va. . . . .	.	.	.	.	.	1	.	.	.	.
†Eton College, Windsor, England	1	.	.	.	.	.	2	.	1	.
Eureka College, Eureka, Ill. . . . .	.	.	.	1	.	.	.	.	.	.
†Evanston Academy of Northwestern Univ., Ill. . . . .	.	.	1	.	.	.	.	.	.	.
*Evanston, Ill., Township High School . . . . .	.	.	.	1	.	.	.	1	.	.
*Everett High School	2	1	.	1	1	3	2	.	1	.
*Fall River, B. M. C. Durfee High School	1	1	2	4	2	5	3	4	1	3
Fargo College, Fargo, N. D. . . . .	.	.	.	.	.	.	.	.	1	.
*Farmington, Me., High School . . . . .	.	.	.	.	.	1	.	.	.	.
*Fitchburg High School	2	.	2	.	3	.	3	.	.	.
Flexner School, Louisville, Ky. . . . .	.	1	.	.	2	.	.	.	.	.
*Fonda, N. Y., High School . . . . .	.	1	.	1	.	.	.	.	.	.
Fordham College, Fordham, N. Y.	1	.	.	.	.	.	.	.	.	.
*Framingham Academy and High School . . . . .	.	.	1	.	.	.	1	1	1	.
Franklin and Marshall College, Lancaster, Pa. . . . .	.	.	1	1	1	.	.	.	1	.
Franklin College, New Athens, O. . . . .	.	.	.	.	.	.	1	.	.	.
*Franklin Falls, N. H., High School . . . . .	.	.	.	.	.	.	1	.	.	.
*Franklin, Horace Mann High School . . . . .	.	.	.	.	.	1	.	.	.	.
Franklin School, Cincinnati, O.	5	2	2	4	2	5	2	1	4	4
*Fredonia, N. Y., State Normal School . . . . .	.	.	.	.	2	.	.	.	.	.
Freeland School, New York, N. Y. . . . .	.	.	.	.	.	.	.	1	.	.
†Friends' Academy, New Bedford	1	2	2	2	1	.	.	.	.	.
†Friends' School, Providence, R. I. . . . .	.	.	.	.	1	.	1	.	.	.
Friends' Select School, Washington, D. C. . . . .	.	.	1	1	.	.	1	.	.	.
†Friends' Seminary, New York, N. Y.	1	.	.	.	.	.	.	.	.	.
Frye Private School, Boston . . . . .	.	3	5	3	2	.	1	.	.	.
Furman University, Greenville, S. C. . . . .	.	.	.	.	.	.	.	1	.	.
*Galveston, Tex., Ball High School	1	.	.	.	.	.	.	.	.	.
*Gardiner, Me., High School	1	.	.	.	.	.	.	.	.	.

SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
*Gardner High School	2	.	.	.	1	.	1	.	.	.
Gates College, Neligh, Neb. . . . .	.	1	1	.	.	.	.	.	.	.
Georgetown College, Washington, D. C.	2	1	1	.	.	.	.	.	.	.
Germantown Academy, Germantown, Pa. . . . .	.	.	1	.	.	.	.	1	.	.
†Gilbert School, Winsted, Conn. . . . .	.	.	.	1	.	.	.	1	.	.
*Glendale, O., High School . . . . .	.	.	.	.	1	.	.	1	1	.
Glens Falls Academy, Glens Falls, N. Y. . . . .	.	.	.	.	1	.	1	1	2	.
*Gloucester High School	4	1	.	1	1	.	1	1	2	.
*Gloversville, N. Y., High School	1	.	.	.	.	.	.	.	.	.
*Goethe Gymnasium, Frankfort, Germany, . . . . .	.	.	.	.	.	.	1	.	.	.
Goodyear's School (The Misses), Syracuse, N. Y. . . . .	.	2	.	.	.	.	.	.	.	.
*Grafton High School . . . . .	.	.	1	1	.	.	.	1	.	.
*Great Falls, Mont., High School	2	.	.	.	.	.	.	.	.	.
*Greenfield High School . . . . .	.	.	.	.	.	.	.	1	.	.
Greenville College, Greenville, Ill. . . . .	.	.	.	.	.	.	.	.	1	.
*Groton High School . . . . .	.	.	1	.	.	.	.	.	.	.
†Groton School, Groton	13	5	16	16	16	14	9	10	17	18
Grove City College, Grove City, Pa.	1	1	2	.	1	2	.	.	.	.
Gunnery School, Washington, Conn.	1	1	1	1	1	2	1	1	.	.
*Gymnasium, Hanover, Germany . . . . .	.	1	.	.	.	.	.	.	.	.
†Hackley School, Tarrytown, N. Y. . . . .	.	.	.	.	4	1	7	5	5	.
*Hagerstown, Md., Male High School . . . . .	.	.	.	.	.	1	.	.	.	.
Hale School, Boston	6	2	3	2	.	.	.	.	.	.
Halsted School, Yonkers, N. Y. . . . .	.	.	1	.	.	.	.	.	.	.
Hamilton College, Clinton, N. Y. . . . .	.	.	1	1	.	.	.	.	.	.
Hamilton Institute, New York, N. Y. . . . .	.	.	.	.	1	.	.	.	2	.
Hamilton School, Philadelphia, Pa.	2	.	.	.	.	.	.	.	.	.
Hamline University, St. Paul, Minn.	1	.	.	.	.	.	.	.	.	.
Hampden-Sidney College, Hampden-Sidney, Va. . . . .	.	.	1	.	.	.	.	.	.	.
Hanover College, Hanover, Ind. . . . .	.	.	.	1	.	.	.	.	.	.
*Hartford, Conn., High School	1	1	.	.	1	2	3	1	.	.
Harvard College Special Students	31	36	35	33	51	28	26	33	32	37
Harvard Graduate Students . . . . .	.	.	.	.	1	.	.	.	.	.
Harvard School, Chicago, Ill. . . . .	.	1	1	.	3	2	1	.	.	.
Haverford College, Haverford, Pa.	4	1	4	2	5	2	2	1	.	.
Haverford, Pa., College Grammar . . . . .	.	.	.	2	.	3	.	2	.	.
*Haverhill High School . . . . .	.	1	1	3	1	7	.	3	.	.
Heathcote School, Buffalo, N. Y.	1	.	2	.	.	1	.	.	.	.
*Helena, Mont., High School	1	.	.	.	.	.	.	.	.	.
Helicon Hall, Englewood, N. J. . . . .	.	.	.	.	.	.	1	1	.	.
Highland Military Academy, Worcester . . . . .	.	.	.	.	.	2	.	.	.	.
*Highland Park, Ill., Deerfield Township High School . . . . .	.	.	.	.	.	.	.	.	1	.
Hildreth's Classical School, Boston	1	1	4	2	3	4	2	.	.	1
Hill School, Pottstown, Pa. . . . .	.	.	1	1	3	3	2	4	1	6
*Hingham High School, Hingham Center . . . . .	.	.	.	.	1	.	.	1	.	.
Hiram College, Hiram, O. . . . .	.	.	.	1	.	.	.	.	.	.
Hobart College, Geneva, N. Y.	1	.	.	.	.	.	.	.	.	.
†Holderness School, Plymouth, N. H. . . . .	.	.	.	.	.	1	.	.	.	.
*Holliston High School . . . . .	.	.	.	.	.	1	.	.	.	.
*Holyoke High School . . . . .	.	.	1	.	1	1	.	.	.	.
Hoover's School (Miss), Paterson, N. J. . . . .	.	.	.	.	.	.	.	1	.	.
Hopkinson's Private School, Boston	18	34	24	18	18	7	4	3	1	.
†Horace Mann School, New York, N. Y. . . . .	.	1	.	2	1	3	.	4	1	.
†Hotchkiss School, Lakeville, Conn.	1	3	1	.	1	2	2	3	5	1
†Howe Military School, Lima, Ind. . . . .	.	1	.	3	1	1	.	1	1	.
*Hudson High School	1	.	1	.	.	.	.	.	.	.
*Hyde Park High School	1	1	1	.	1	.	1	.	.	.
Illinois College, Jacksonville, Ill. . . . .	.	.	.	.	.	.	.	.	1	.

SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Illinois State Normal University, Normal, Ill. . . . .	.	.	.	1						
Illinois Wesleyan University, Bloomington, Ill. . . . .	.	.	.	1						
Indiana University, Bloomington, Ind.	1	.	2	.	.	2				
*Indianapolis, Ind., Manual Training High School . . . . .	.	.	1	.						
*Indianapolis, Ind., Shortridge High School . . . . .	.	.	.	.	.	1	1	2		
Institute Sillig, Vevey, Switzerland	1	.	.	.	.	.	.	.
*Interlaken, N. Y., High School . . . . .	.	.	.	.	.	.	.	.	1	
Iowa College, Grinnell, Ia. . . . .	.	.	.	1						
*Ipswich, Manning High School	1	.	1	.						
Irving School, New York, N. Y. . . . .	.	1	1	.	.	.	.	.	1	
*Ithaca, N. Y., High School . . . . .	.	.	.	.	.	.	.	.	1	
*Jacksonville, Fla., Duval High School	1	.	.	.	.	.	.	.
†Jacob Tome Institute, Port Deposit, Md. . . . .	.	.	.	.	.	.	1	.	1	
Jenner's Preparatory School, Syracuse, N. Y.	1	1	.	.	.	.	.	.
*Jersey City, N. J., High School . . . . .	.	.	1	.	.	.	.	.
*Johnstown, Pa., High School . . . . .	.	.	1	.	1	.	.	.		
*Kansas City, Mo., Central High School	1	.	.	.	1	.	.	2		
*Karls-Gymnasium, Stuttgart, Germany . . . . .	.	.	.	1	.	.	.	.
Kelvin School, New York, N. Y. . . . .	.	.	.	.	.	.	.	.	1	
Kendall's Private School, Cambridge	1	.	.	.	.	.	.	.
*Kennebunk, Me., High School . . . . .	.	.	.	.	.	.	.	.	1	
Kenyon College, Gambier, O. . . . .	.	.	1	.	1	.	.	.		
Keystone Academy, Factoryville, Pa.	1	.	.	.	.	.	.	.
King School, Stamford, Conn.	1	.	.	.	.	.	.	.
Kiskeminetas Springs School, Saltsburg, Pa. . . . .	.	.	.	.	1	.	.	.		
Knox College, Galesburg, Ill. . . . .	.	1	.	.	.	.	.	.
Lafayette College, Easton, Pa. . . . .	.	1	.	.	.	1	1	.	1	
*La Grange, Ill., Lyons Township High School . . . . .	.	.	1	1	.	.	.	.
†Lake Forest Academy, Lake Forest, Ill.	1	3	2	.	1	.	.	1		
Lake Forest College, Lake Forest, Ill. . . . .	.	.	1	.	.	1	.	.	1	
Lakeside School, Chicago, Ill. . . . .	.	1	1	.	.	.	.	.
Lakewood School, Lakewood, N. J. . . . .	.	.	.	.	.	.	1	.		
*Lancaster, N.H., Academy and High School	1	.	.	2	.	.	.	.
La Salle Academy, Providence, R. I.	1	.	.	.	.	.	.	1		
La Villa School, Lausanne, Ouchy, Switzerland . . . . .	.	.	.	.	.	.	.	1		
*Lawrence High School	1	2	1	3	2	1	1	4		
Lawrence Scientific School, Cambridge	9	13	13	10	9	11	23	21	17	26
†Lawrenceville School, Lawrenceville, N. J. . . . .	.	5	2	2	2	1	.	1	4	
Leal's School for Boys, Plainfield, N. J. . . . .	.	.	1	1	.	.	1	.		
†Leicester Academy, Leicester . . . . .	.	.	.	.	1	.	.	.	1	
Leland Stanford Jr. Univ., Stanford Univ., Cal.	1	.	2	.	1	.	2	1		
*Leominster, Field High School . . . . .	.	.	1	.	.	.	.	1		
†Lewis Institute, Chicago, Ill. . . . .	.	.	.	.	1	.	.	1		
*Lexington High School . . . . .	.	.	.	.	.	1	1	.		
*Lockport, N. Y., High School . . . . .	.	.	.	.	.	2	.	.	1	
*Los Angeles, Cal., High School . . . . .	.	1	.	.	.	.	.	.
*Louisville, Ky., Male High School	1	1	1	.	1	2	1	1	1	
Louisville School for Boys, Louisville, Ky. . . . .	.	.	.	.	.	.	3	.		
*Lowell High School	1	2	.	1	2	6	3	2	1	2
Lycée Condorcet, Paris, France . . . . .	.	.	.	1	.	.	.	.
*Lynn Classical High School	6	4	5	2	2	1	1	10	4	5
*Lynn English High School	1	.	1	.	.	.	.	.
*Machias, Me., High School . . . . .	.	.	1	.	.	.	.	.
McMaster University, Toronto, Ont. . . . .	.	.	.	1	1	.	1	.		
McMinnville College, McMinnville, Ore. . . . .	.	.	.	1	.	.	.	.
*Malden High School	5	.	3	.	3	1	7	1	4	1
Malvern College, Malvern, England . . . . .	.	.	.	.	.	.	2	.		
*Manchester, N. H., High School	1	2	.	2	2	1	.	.		

SCHOOL OR COLLEGE.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.
*Mansfield High School . . . . .	.	.	.	.	1					
*Marlboro High School . . . . .	.	2	.	2						
Maryville College, Maryville, Tenn.	1									
Mass. Agricultural College, Amherst . . . . .	.	.	1							
Mass. Institute of Technology, Boston	1	.	1	.	.	1	1	1	1	
*Medford High School	1	1	.	1	1	.	8	1	1	
*Melrose High School	2	2	.	3	3	2	4	2	1	2
Mercersburg College, Mercersburg, Pa.	1									
*Meriden, Conn., High School . . . . .	.	1								
*Methuen High School . . . . .	.	.	.	.	.	.	.	1		
Miami University, Oxford, O. . . . .	.	1								
Michigan Military Academy, Orchard Lake, Mich. . . . .	.	.	.	2						
*Middleboro High School . . . . .	.	.	.	1	.	1				
†Middlesex School, Concord . . . . .	.	.	.	.	.	.	.	.	.	6
*Middletown, N. Y., High School . . . . .	.	.	.	.	.	1				
*Milford High School	1									
†Milton Academy, Milton	5	9	8	10	11	10	8	9	16	11
*Milton High School . . . . .	.	2	.	2	.	.	.	.	1	2
Milwaukee Academy, Milwaukee, Wis. . . . .	.	.	.	1	.	1	.	.	1	
*Milwaukee, Wis., East Division High School . . . . .	.	.	1	1	2	.	1			
*Milwaukee, Wis., West Division High School . . . . .	.	.	.	.	.	.	1			
*Minneapolis, Minn., Central High School . . . . .	.	.	.	.	.	.	.	.	.	1
Mississippi College, Clinton, Miss.	2	.	1							
Mohegan Lake School, Mohegan, N. Y. . . . .	.	1	1							
†Monson Academy, Monson . . . . .	.	1	.	1						
Montclair Military Academy, Montclair, N. J. . . . .	.	.	.	.	.	.	.	1		
*Montclair, N. J., High School . . . . .	.	.	2	.	1	1	.	.	3	.
*Montpelier, Vt., High School	1									
Morristown School, Morristown, N. J. . . . .	.	.	.	1	1	1	3	3	3	2
Morse & Rogers Private School, New York, N. Y.	1	.	3	1	.	.	.	.	1	
†Moses Brown School, Providence, R. I. . . . .	.	.	.	.	.	.	.	.	.	2
Mosher's Home Preparatory School, New Bedford . . . . .	.	.	1							
†Mount Hermon School, Mount Hermon . . . . .	.	2	.	.	.	1	1	.	2	2
†Mount Pleasant Military Academy, Ossining, N. Y. . . . .	.	.	.	.	.	.	1			
Mt. Union College, Alliance, O.	1	.	1	.	.	1	1	.	1	
*Nashua, N. H., High School . . . . .	.	.	1	.	.	2				
*Natick High School	1	2	1	.	.	.	1	1		
National Capital School, Washington, D. C. . . . .	.	.	1	.	1					
*Needham High School . . . . .	.	1	1	2	.	.	.	.	2	
Nevada State University, Reno, Nev.	1									
†Newark Academy, Newark, N. J. . . . .	.	.	.	.	1	.	2	.	1	
*New Bedford High School . . . . .	.	1	5	1	1	.	.	.	1	1
*Newburgh Free Academy, Newburgh, N. Y. . . . .	.	.	.	1	.	1	.	.	.	2
*Newburyport High School . . . . .	.	3	1	.	3	.	1	.	.	
*Newport, R. I., Rogers High School . . . . .	.	1	2	.	.	4	.	1	.	1
*Newton High School, Newtonville	6	12	10	2	8	8	15	13	12	5
*New York, N. Y., De Witt Clinton High School . . . . .	.	.	.	.	.	.	1	.	1	
New York, N. Y., Ethical Culture High School . . . . .	.	.	.	.	.	.	.	.	.	1
*New York, N. Y., Morris High School . . . . .	.	.	.	.	.	.	.	1	.	
New York University, New York, N. Y. . . . .	.	.	.	1	.	.	.	1	1	
Nichols School, Buffalo, N. Y.	2	1	.	2	1	.	1	.	2	
Noble & Greenough Private School, Boston	9	11	14	22	8	23	17	21	23	25
*North Adams, Drury High School . . . . .	.	.	.	.	2					
*Northampton High School . . . . .	.	1	.	.	.	.	.	1	1	
*North Andover, Johnson High School . . . . .	.	.	.	.	.	.	1			
*North Attleboro High School	1	.	.	1	2	.	1	1	.	1
*Northborough High School . . . . .	.	.	.	.	.	.	.	.	1	1
*North Tonawanda, N. Y., High School . . . . .	.	.	1							

SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Northwestern University, Evanston, Ill. . . . .	.	.	1	1	.	1	.	.	.	.
†Norwich Free Academy, Norwich, Conn. . . . .	.	.	.	.	.	.	1	.	.	1
*Norwood High School . . . . .	.	.	.	.	.	1	.	.	.	1
Oahu College, Honolulu, H. I.	1	.	.	.	1	.	.	2	1	.
*Oak Park, Ill., High School . . . . .	.	.	.	.	.	1	.	1	.	.
Oberlin Academy, Oberlin, O. . . . .	.	.	.	.	.	1	1	.	.	.
Oberlin College, Oberlin, O. . . . .	.	.	3	1	.	1	3	.	.	.
*Ogden, Utah, High School . . . . .	.	.	.	.	.	.	.	1	.	.
†Ohio Military Institute, Cincinnati, O. . . . .	.	.	.	.	.	.	.	.	.	1
Ohio State University, Columbus, O. . . . .	.	.	.	2	1	.	2	1	2	.
Ohio University, Athens, O. . . . .	.	.	.	.	1	.	.	.	.	.
Ohio Wesleyan University, Delaware, O.	4	.	.	.	1	1	.	1	1	.
Olivet College, Olivet, Mich. . . . .	.	.	.	.	.	1	.	.	.	.
*Omaha, Neb., High School	2	.	.	.	.	.	.	.	1	.
*Oneonta, N. Y., High School . . . . .	.	.	.	.	.	.	.	1	.	.
*Oneonta State Normal School, Oneonta, N. Y.	1	.	1	1	.	.	1	2	2	.
*Orange High School . . . . .	.	.	.	.	.	.	.	1	.	.
*Orange, N. J., High School No. 1	1	.	.	.	.	.	.	.	.	.
Ottawa, Canada, Collegiate Institute . . . . .	.	.	.	.	.	.	.	.	1	.
Otterbein University, Westerville, O. . . . .	.	.	.	.	.	.	1	.	.	.
*Owego Free Academy, Owego, N. Y.	1	.	.	.	1	.	.	.	.	.
Oxford School, Malden . . . . .	.	.	.	.	.	.	.	2	.	.
Oxford University, Oxford, England . . . . .	.	.	.	.	.	.	.	.	1	.
Patterson-Davenport School, Louisville, Ky. . . . .	.	.	.	.	.	.	.	1	.	.
*Pawtucket, R. I., High School	3	1	.	.	.	.	.	.	.	.
*Peabody High School . . . . .	.	.	1	.	2	.	1	.	.	.
Penn College, Oskaloosa, Ia. . . . .	.	.	.	.	.	.	1	.	.	.
Pennsylvania College, Gettysburg, Pa. . . . .	.	.	.	.	.	.	.	2	1	.
Pennsylvania Military College, Chester, Pa. . . . .	.	.	.	.	.	.	.	1	.	.
*Peoria, Ill., High School . . . . .	.	.	.	.	1	.	.	.	.	.
Perkiomen Seminary, Pennsburg, Pa. . . . .	.	.	1	.	.	.	.	.	.	.
*Perry, N. Y., High School . . . . .	.	.	.	.	.	.	.	.	1	.
*Philadelphia, Pa., Central High School	1	.	1	2	1	2	3	2	.	.
*Philadelphia, Pa., Northeast Manual Training School . . . . .	.	.	.	.	1	.	.	.	.	.
†Phillips Academy, Andover	22	22	16	8	16	11	17	17	10	7
†Phillips Academy, Exeter, N. H.	8	7	23	31	35	25	24	26	9	23
*Pittsburg, Pa., Central High School	2	3	1	.	.	1	3	1	2	1
*Pittsfield High School	2	.	1	.	.	1	.	2	1	.
*Plainfield, N. J., High School . . . . .	.	.	.	.	.	.	.	1	.	.
*Plymouth High School	1	.	.	1	1	1	.	.	1	.
Pomfret School, Pomfret, Conn. . . . .	.	2	4	5	9	4	2	6	11	4
†Portland Academy, Portland, Ore.	1	1	.	2	2	1	.	1	.	.
*Portland, Me., Deering High School . . . . .	.	.	.	.	.	.	2	1	.	.
*Portland, Me., High School	1	1	2	2	3	1	2	1	1	1
*Portsmouth, N. H., High School . . . . .	.	.	2	.	1	1	1	1	.	.
Powder Point School, Duxbury	2	.	.	2	1	.	.	.	.	.
Princeton University, Princeton, N. J. . . . .	.	.	.	.	.	.	.	1	.	1
Princeton-Yale School, Chicago, Ill.	1	.	.	.	.	.	.	.	.	.
Princeville Academy, Princeville, Ill. . . . .	.	.	.	1	.	.	.	.	.	.
†Proctor Academy, Andover, N. H.	2	.	.	.	.	.	.	.	.	.
Prosser-Preparatory, Kansas City, Mo. . . . .	.	.	.	.	.	.	.	2	.	.
*Providence, R. I., Classical High School . . . . .	.	.	1	.	2	.	.	.	.	.
*Providence, R. I., Hope St. High School	1	.	.	.	.	.	.	1	.	.
Queen's University, Kingston, Ont. . . . .	.	1	.	.	.	.	1	.	.	.
*Quincy High School	2	.	1	2	1	1	1	1	2	.
*Quincy, Ill., High School . . . . .	.	.	.	.	.	.	1	.	.	.
*Reading High School . . . . .	.	.	.	1	.	.	.	1	.	1
*Reading, Pa., Boys' High School . . . . .	.	.	.	1	3	.	1	2	.	.

SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Richmond College, Richmond, Va. . . . .	.	.	.	.	.	.	.	.	.	1
Rideoute, Miss C. L., Private School, Boston . . .	1	.	.	.	.	.	.	.	.	.
Ridge School, Washington, Conn. . . . .	.	.	1	.	.	3	1	3	.	.
*Rindge Manual Training School, Cambridge . . .	.	.	.	.	.	.	1	.	.	.
Riverview Military Academy, Poughkeepsie, N. Y. .	.	1	2	.	.	1	.	.	.	1
*Rochester, N. Y., East High School . . . . .	.	.	.	1	.	.	.	1	1	.
*Rockford, Ill., High School . . . . .	.	.	.	.	.	.	1	.	.	.
*Rock Island, Ill., High School	1	.	.	.	.	.	.	.	.	.
*Rockland High School . . . . .	.	1	1	.	1	2	1	3	.	.
Rock Ridge School, Wellesley Hills . . . . .	.	.	.	.	.	.	.	.	1	1
*Roxbury High School . . . . .	.	3	3	1	2	2	5	1	1	1
†Roxbury Latin School	20	14	12	21	16	10	22	16	8	9
Rugby School, Kenilworth, Ill. . . . .	.	.	1	2	1	1	2	.	.	.
Rutger's College, New Brunswick, N. J. . . . .	.	.	.	.	.	.	.	.	1	.
Rutger's Coll. Prep. School, New Brunswick, N. J. .	.	.	.	.	.	.	.	.	1	.
Sachs Collegiate Institute, New York, N. Y. . . .	6	2	3	5	3	2	5	2	2	4
*St. Albans, Vt., High School . . . . .	.	.	.	.	.	.	.	.	.	1
St. Austin's School, West New Brighton, N. Y. . .	.	.	.	2	.	.	.	.	.	.
St. Bartholomew's School, Morristown, N. J. . . .	1	1	.	.	.	.	.	.	.	.
St. George's School, Newport, R. I. . . . .	.	.	.	.	1	1	2	.	3	8
St. John's School, Manlius, N. Y. . . . .	.	.	.	.	.	1	.	.	.	.
†St. Johnsbury Academy, St. Johnsbury, Vt. . . .	1	.	.	.	.	.	.	1	.	.
St. Lawrence University, Canton, N. Y. . . . .	.	.	2	1	1	.	.	1	.	.
*St. Louis, Mo., Central High School . . . . .	.	.	.	2	1	2	.	.	1	.
†St. Mark's School, Southboro	9	4	7	12	16	20	11	4	11	13
*St. Mary's, O., Public High School . . . . .	.	.	.	.	.	.	1	.	.	.
St. Paul Academy, St. Paul, Minn. . . . .	.	.	.	.	.	.	1	.	.	.
*St. Paul, Minn., Central High School	1	1	.	1	.	.	3	.	1	.
†St. Paul's School, Concord, N. H.	11	11	5	15	10	21	23	17	22	17
†St. Paul's School, Garden City, L. I., N. Y. . .	1	1	2	.	2	.	1	.	.	1
St. Stephen's College, Annandale, N. Y. . . . .	.	.	.	.	.	.	1	.	.	.
St. Thomas Aquinas College, Cambridgeport . . .	.	.	.	1	.	.	1	.	.	.
*Salem Classical and High School	3	6	5	2	5	5	3	1	5	4
*Salt Lake City, Utah, High School . . . . .	.	.	.	.	.	.	.	.	.	2
Salt Lake Collegiate Institute, Salt Lake City, Utah	.	.	.	.	.	.	.	.	.	1
*San Francisco, Cal., Lowell High School . . . .	.	.	.	.	.	.	1	.	.	.
*Saugus High School . . . . .	.	.	.	.	2	1	.	1	.	.
School of the Lackawanna, Scranton, Pa. . . . .	.	.	.	1	.	.	.	1	1	.
School of Pedagogy, Philadelphia, Pa. . . . .	.	.	.	.	.	.	.	.	1	.
Schools in Turkey . . . . .	.	.	.	.	1	.	.	.	.	.
*Scranton, Pa., High School . . . . .	.	.	.	.	1	.	1	.	.	1
†Shady Side Academy, Pittsburg, Pa. . . . .	.	.	.	1	.	.	1	.	.	.
†Shattuck School, Faribault, Minn. . . . .	.	.	1	.	.	.	.	.	.	.
Smith Academy, St. Louis, Mo.	6	2	6	2	4	4	1	3	2	1
Smith, Miss K. V., Private School, Cambridge . .	1	.	.	1	.	.	.	.	.	.
*Somerville English High School	2	1	.	.	.	.	.	.	.	.
*Somerville Latin High School	3	7	6	9	6	3	11	8	10	4
South Carolina College, Columbia, S. C. . . . .	.	1	.	.	.	.	.	.	.	.
†South Side Academy, Chicago, Ill. . . . .	.	.	.	.	.	.	.	1	.	.
*Spokane, Wash., High School	1	.	.	.	.	.	.	.	.	.
*Springfield Central High School . . . . .	.	3	6	2	5	2	3	4	3	.
State University of Iowa, Iowa City, Ia. . . . .	.	.	.	2	.	.	1	.	.	1
Staten Island Academy, New Brighton, N. Y. . . .	.	.	.	.	.	.	2	.	1	.
Stone Private School, Boston	1	1	3	5	7	7	7	8	6	11
Swarthmore College, Swarthmore, Pa. . . . .	.	1	1	.	.	1	.	.	.	.
Swarthmore Preparatory School, Swarthmore, Pa. .	.	.	.	.	.	.	.	.	1	.
Syracuse University, Syracuse, N. Y. . . . .	.	.	.	.	2	1	.	3	.	.
†Tabor Academy, Marion	1	.	1	.	1	.	.	.	.	.

SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Northwestern University, Evanston, Ill. . . . .	.	.	1	1	.	.	1	.	.	.
†Norwich Free Academy, Norwich, Conn. . . . .	.	.	.	.	.	.	.	1	.	.
*Norwood High School . . . . .	.	.	.	.	.	.	1	.	.	1
Oahu College, Honolulu, H. I.	1	.	.	.	1	.	.	.	2	1
*Oak Park, Ill., High School . . . . .	.	.	.	.	.	.	1	.	1	.
Oberlin Academy, Oberlin, O. . . . .	.	.	.	.	.	.	.	1	.	.
Oberlin College, Oberlin, O. . . . .	.	.	3	1	.	1	1	3	.	.
*Ogden, Utah, High School . . . . .	.	.	.	.	.	.	.	.	1	.
†Ohio Military Institute, Cincinnati, O. . . . .	.	.	.	.	.	.	.	.	.	1
Ohio State University, Columbus, O. . . . .	.	.	.	2	1	.	2	1	2	.
Ohio University, Athens, O. . . . .	.	.	.	.	1	.	.	.	.	.
Ohio Wesleyan University, Delaware, O.	4	.	.	.	1	1	.	1	1	.
Olivet College, Olivet, Mich. . . . .	.	.	.	.	.	1	.	.	.	.
*Omaha, Neb., High School . . . . .	.	2	.	.	.	.	.	.	.	1
*Oneonta, N. Y., High School . . . . .	.	.	.	.	.	.	.	1	.	.
*Oneonta State Normal School, Oneonta, N. Y.	1	.	1	1	.	.	1	2	2	.
*Orange High School . . . . .	.	.	.	.	.	.	.	1	.	.
*Orange, N. J., High School No. 1 . . . . .	.	1	.	.	.	.	.	.	.	.
Ottawa, Canada, Collegiate Institute . . . . .	.	.	.	.	.	.	.	.	.	1
Otterbein University, Westerville, O. . . . .	.	.	.	.	.	.	1	.	.	.
*Owego Free Academy, Owego, N. Y. . . . .	.	1	.	.	.	1	.	.	.	.
Oxford School, Malden . . . . .	.	.	.	.	.	.	.	2	.	.
Oxford University, Oxford, England . . . . .	.	.	.	.	.	.	.	.	.	1
Patterson-Davenport School, Louisville, Ky. . . . .	.	.	.	.	.	.	.	.	1	.
*Pawtucket, R. I., High School	3	1	.	.	.	.	.	.	.	.
*Peabody High School . . . . .	.	.	1	.	2	.	1	.	.	.
Penn College, Oskaloosa, Ia. . . . .	.	.	.	.	.	.	1	.	.	.
Pennsylvania College, Gettysburg, Pa. . . . .	.	.	.	.	.	.	.	2	1	.
Pennsylvania Military College, Chester, Pa. . . . .	.	.	.	.	.	.	.	.	1	.
*Peoria, Ill., High School . . . . .	.	.	.	.	1	.	.	.	.	.
Perkiomen Seminary, Pennsburg, Pa. . . . .	.	.	.	1	.	.	.	.	.	.
*Perry, N. Y., High School . . . . .	.	.	.	.	.	.	.	.	.	1
*Philadelphia, Pa., Central High School . . . . .	.	1	.	1	2	1	2	3	2	.
*Philadelphia, Pa., Northeast Manual Training School . . . . .	.	.	.	.	.	1	.	.	.	.
†Phillips Academy, Andover	22	22	16	8	16	11	17	17	10	7
†Phillips Academy, Exeter, N. H.	8	7	23	31	35	25	24	26	9	23
*Pittsburg, Pa., Central High School	2	3	1	.	.	1	3	1	2	1
*Pittsfield High School	2	.	1	.	.	.	1	.	2	1
*Plainfield, N. J., High School . . . . .	.	.	.	.	.	.	.	.	1	.
*Plymouth High School	1	.	.	1	1	1	.	.	1	.
Pomfret School, Pomfret, Conn. . . . .	.	2	4	5	9	4	2	6	11	4
†Portland Academy, Portland, Ore.	1	1	.	2	2	1	.	.	.	.
*Portland, Me., Deering High School . . . . .	.	.	.	.	.	.	2	1	.	.
*Portland, Me., High School	1	1	2	2	3	1	2	1	1	1
*Portsmouth, N. H., High School . . . . .	.	.	2	.	1	1	1	1	.	.
Powder Point School, Duxbury	2	.	.	2	1	.	.	.	.	.
Princeton University, Princeton, N. J. . . . .	.	.	.	.	.	.	.	1	.	1
Princeton-Yale School, Chicago, Ill.	1	.	.	.	.	.	.	.	.	.
Princeville Academy, Princeville, Ill. . . . .	.	.	.	.	1	.	.	.	.	.
†Proctor Academy, Andover, N. H.	2	.	.	.	.	.	.	.	.	.
Prosser-Preparatory, Kansas City, Mo. . . . .	.	.	.	.	.	.	.	.	2	.
*Providence, R. I., Classical High School . . . . .	.	.	1	.	2	.	.	.	.	.
*Providence, R. I., Hope St. High School . . . . .	.	1	.	.	.	.	.	1	.	.
Queen's University, Kingston, Ont. . . . .	.	1	.	.	.	.	1	.	.	.
*Quincy High School	2	.	1	2	1	1	1	1	2	.
*Quincy, Ill., High School . . . . .	.	.	.	.	.	.	1	.	.	.
*Reading High School . . . . .	.	.	.	1	.	.	.	1	.	1
*Reading, Pa., Boys' High School . . . . .	.	.	.	1	3	.	1	2	.	.

SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Richmond College, Richmond, Va. . . . .	.	.	.	.	.	.	.	.	.	1
Rideoute, Miss C. L., Private School, Boston . . .	1	.	.	.	.	.	.	.	.	.
Ridge School, Washington, Conn. . . . .	.	.	1	.	.	.	3	1	3	.
*Rindge Manual Training School, Cambridge . . .	.	.	.	.	.	.	.	1	.	.
Riverview Military Academy, Poughkeepsie, N. Y. .	.	1	2	.	.	1	.	.	.	1
*Rochester, N. Y., East High School . . . . .	.	.	.	1	.	.	.	.	1	1
*Rockford, Ill., High School . . . . .	.	.	.	.	.	.	1	.	.	.
*Rock Island, Ill., High School	1	.	.	.	.	.	.	.	.	.
*Rockland High School . . . . .	.	1	1	.	1	2	1	3	.	.
Rock Ridge School, Wellesley Hills . . . . .	.	.	.	.	.	.	.	.	1	1
*Roxbury High School . . . . .	.	3	3	1	2	2	5	1	1	1
†Roxbury Latin School	20	14	12	21	16	10	22	16	8	9
Rugby School, Kenilworth, Ill. . . . .	.	.	1	2	1	1	2	.	.	.
Rutger's College, New Brunswick, N. J. . . . .	.	.	.	.	.	.	.	.	1	.
Rutger's Coll. Prep. School, New Brunswick, N. J. .	.	.	.	.	.	.	.	.	1	.
Sachs Collegiate Institute, New York, N. Y. . . .	6	2	3	5	3	2	5	2	2	4
*St. Albans, Vt., High School . . . . .	.	.	.	.	.	.	.	.	.	1
St. Austin's School, West New Brighton, N. Y. . .	.	.	.	2	.	.	.	.	.	.
St. Bartholomew's School, Morristown, N. J. . .	1	1	.	.	.	.	.	.	.	.
St. George's School, Newport, R. I. . . . .	.	.	.	.	1	1	2	.	8	8
St. John's School, Manlius, N. Y. . . . .	.	.	.	.	.	1	.	.	.	.
†St. Johnsbury Academy, St. Johnsbury, Vt. . . .	1	.	.	.	.	.	.	1	.	.
St. Lawrence University, Canton, N. Y. . . . .	.	.	2	1	1	.	.	1	.	.
*St. Louis, Mo., Central High School . . . . .	.	.	.	2	1	2	.	.	1	.
†St. Mark's School, Southboro	9	4	7	12	16	20	11	4	11	13
St. Mary's, O., Public High School . . . . .	.	.	.	.	.	.	1	.	.	.
St. Paul Academy, St. Paul, Minn. . . . .	.	.	.	.	.	.	1	.	.	.
*St. Paul, Minn., Central High School	1	1	.	1	.	.	.	.	1	.
†St. Paul's School, Concord, N. H.	11	11	5	15	10	21	23	17	22	17
†St. Paul's School, Garden City, L. I., N. Y. . .	1	1	2	.	2	.	1	.	.	1
St. Stephen's College, Annandale, N. Y. . . . .	.	.	.	.	.	.	1	.	.	.
St. Thomas Aquinas College, Cambridgeport . . .	.	.	.	1	.	.	1	.	.	.
*Salem Classical and High School	3	6	5	2	5	5	3	1	5	4
*Salt Lake City, Utah, High School . . . . .	.	.	.	.	.	.	.	.	.	2
Salt Lake Collegiate Institute, Salt Lake City, Utah	.	.	.	.	.	.	.	.	.	1
*San Francisco, Cal., Lowell High School . . . .	.	.	.	.	.	.	1	.	.	.
*Saugus High School . . . . .	.	.	.	.	2	1	.	1	.	.
School of the Lackawanna, Scranton, Pa. . . . .	.	.	.	1	.	.	.	1	1	.
School of Pedagogy, Philadelphia, Pa. . . . .	.	.	.	.	.	.	.	.	1	.
Schools in Turkey . . . . .	.	.	.	1	.	.	.	.	.	.
*Scranton, Pa., High School . . . . .	.	.	.	.	1	.	1	.	.	1
†Shady Side Academy, Pittsburg, Pa. . . . .	.	.	.	1	.	.	1	.	.	.
†Shattuck School, Faribault, Minn. . . . .	.	.	1	.	.	.	.	.	.	.
Smith Academy, St. Louis, Mo.	6	2	6	2	4	4	1	3	2	1
Smith, Miss K. V., Private School, Cambridge . .	1	.	1	.	.	.	.	.	.	.
*Somerville English High School	2	1	.	.	.	.	.	.	.	.
*Somerville Latin High School	3	7	6	9	6	3	11	8	10	4
South Carolina College, Columbia, S. C. . . . .	.	1	.	.	.	.	.	.	.	.
†South Side Academy, Chicago, Ill. . . . .	.	.	.	.	.	.	.	1	.	.
*Spokane, Wash., High School	1	.	.	.	.	.	.	.	.	.
*Springfield Central High School . . . . .	.	3	6	2	5	2	3	4	3	.
State University of Iowa, Iowa City, Ia. . . . .	.	.	.	2	.	.	.	.	.	1
Staten Island Academy, New Brighton, N. Y. . . .	.	.	.	.	.	.	2	.	1	.
Stone Private School, Boston	1	1	3	5	7	7	7	8	6	11
Swarthmore College, Swarthmore, Pa. . . . .	.	1	1	.	1	.	.	.	.	.
Swarthmore Preparatory School, Swarthmore, Pa. .	.	.	.	.	.	.	.	.	1	.
Syracuse University, Syracuse, N. Y. . . . .	.	.	.	.	2	1	.	3	.	.
†Tabor Academy, Marion	1	.	1	.	1	.	.	.	.	.

SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
*Tacoma, Wash., High School . . . . .	.	.	.	.	.	1	1			
Taft School, Watertown, Conn.	1	.	.	1	.					
*Taunton High School	1	2	1	.	.	8	.	.	2	
Temple College, Philadelphia, Pa. . . . .	.	.	1	.	.					
*Terre Haute, Ind., High School . . . . .	.	.	.	1	.	.	.	1		
Thacher School, Nordhoff, Cal. . . . .	.	.	.	.	.	.	.	1		
†Thayer Academy, South Braintree	2	1	1	1	2	1	4	1	.	6
Thornton Academy, Saco, Me.	1	.	.	.	.	.	.	.	.
*Toledo, O., Central High School	1	.	.	.	.	.	.	.	.
Toulon Academy, Toulon, Ill. . . . .	.	.	.	.	.	.	.	1		
*Trenton, N. J., State Model School . . . . .	.	.	.	.	.	1	.	.	.	
Trinity College, Durham, N. C. . . . .	.	.	.	.	.	.	.	1	1	
Trinity College, Hartford, Conn. . . . .	.	.	.	.	.	.	.	1		
Trinity College, Toronto, Canada . . . . .	.	.	.	.	1	.	.	.	.
†Trinity School, New York, N. Y. . . . .	.	.	.	.	.	1	.	.	.	
*Troy, N. Y., High School . . . . .	.	.	.	.	.	2	2	.	.	
Tsukiji School, Tokyo, Japan	1	.	.	.	.	.	.	.	.
Tufts College, Tufts College	1	.	.	1	.	.	.	1	.	1
Tulane University, New Orleans, La.	5	.	.	.	.	1	2	.	1	1
Union College, Schenectady, N. Y. . . . .	.	.	.	.	.	.	1	.	.	
University of Alabama, University, Ala. . . . .	.	.	1	.	1	.	.	.	.
University of California, Berkeley, Cal. . . . .	.	.	2	.	.	1	.	1	1	
University of Chicago, Chicago, Ill.	1	1	.	2	2	1	4	1	.	
University of Cincinnati, Cincinnati, O. . . . .	.	.	.	1	.	.	1	.	.	
University of Colorado, Boulder, Colo. . . . .	.	.	.	2	.	.	.	.	.	1
University of Denver, University Park, Colo. . . . .	.	.	.	.	.	.	.	.	.	1
University of Georgia, Athens, Ga. . . . .	.	.	.	1	.	1	.	.	.	
University of Idaho, Moscow, Ida. . . . .	.	.	.	.	.	.	.	1	.	
University of Illinois, Urbana, Ill.	1	1	2	.	.	1	.	.	.	1
University of Kansas, Lawrence, Kan.	3	.	1	3	1	1	3	2	.	
University of King's College, Windsor, N. S. . . . .	.	.	.	1	.	.	.	.	.
University of Michigan, Ann Arbor, Mich. . . . .	.	1	2	.	1	.	1	2	4	
University of Minnesota, Minneapolis, Minn.	1	.	1	.	.	.	1	2	3	1
University of Missouri, Columbia, Mo. . . . .	.	1	1	.	1	.	1	2	.	
University of Montana, Missoula, Mont. . . . .	.	.	.	.	.	.	.	1	.	
University of Mt. Allison College, Sackville, N. B. . . . .	.	.	.	2	.	1	1	.	.	
University of Nebraska, Lincoln, Neb. . . . .	.	.	.	.	.	.	.	.	1	
University of New Brunswick, Fredericton, N. B. . . . .	.	2	2	.	2	2	3	.	.	
University of North Carolina, Chapel Hill, N. C.	1	.	1	1	1	.	.	.	.
University of Notre Dame, Notre Dame, Ind. . . . .	.	.	.	.	.	.	1	.	.	
University of Oregon, Eugene, Ore. . . . .	.	1	.	.	.	.	.	.	1	1
University of Pennsylvania, Philadelphia, Pa. . . . .	.	.	.	.	1	.	.	1	.	
University of Rochester, Rochester, N. Y. . . . .	.	.	1	1	1	.	1	1	1	
University of the South, Sewanee, Tenn. . . . .	.	.	1	1	.	1	.	.	.	
University of Tennessee, Knoxville, Tenn. . . . .	.	.	.	1	.	.	.	.	.
University of Texas, Austin, Tex.	1	.	.	.	.	.	.	.	.
University of Utah, Salt Lake City, Utah . . . . .	.	.	.	1	.	.	.	.	.
University of Vermont, Burlington, Vt. . . . .	.	.	.	.	2	.	1	.	.	
University of West Virginia, Morgantown, W. Va. . . . .	.	.	.	.	.	1	.	1	1	
University of Wisconsin, Madison, Wis. . . . .	.	.	.	.	1	.	.	1	.	1
University of Wooster, Wooster, O. . . . .	.	.	1	1	.	1	.	.	.	
University of Wyoming, Laramie, Wyo. . . . .	.	.	.	.	.	1	.	.	.	
University School, Baltimore, Md. . . . .	.	.	1	.	.	3	3	1	.	
University School, Chicago, Ill.	2	3	1	3	4	1	1	2	.	
University School, Cincinnati, Ohio . . . . .	.	.	.	.	.	.	.	.	1	1
†University School, Cleveland, O.	1	1	2	1	3	1	2	1	1	1
†University School, Detroit, Mich. . . . .	.	.	.	.	2	.	.	.	1	1
University School, Knoxville, Tenn.	1	.	.	.	.	.	.	.	.

SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
University School, Washington, D. C.	1	2	.	2	.	.	.
Ursinus College, Collegeville, Pa.	1	1	.	.	.	.	.	.	.
*Utica Free Academy, Utica, N. Y.	1	1	1	1	1	1
Utica Preparatory School, Utica, N. Y.	2	.	.	.	.	.	1
Van Buren College, Van Buren, Me.	1	.	.	.
Vanderbilt University, Nashville, Tenn.	1	2	1	.	.	.	.
Volkmann Private School, Boston	1	8	2	3	8	10	14	15	13	17
Waban School, Waban	1	2	.	.	.	.	.	.	.	.
*Wakefield High School	1	1	.	2	.	.	.
Walker's Preparatory School, Salem	1	.	.	.	.	1	.	.	.
*Walpole High School	1	2	.	.	.	.
*Waltham High School	1	2	.	2	3	3	3	.	2	1
*Walton, N. Y., High School	1	.	.	.	.	.
*Ware High School	1	.	.
*Warren, O., High School	1	.	.
Washburn College, Topeka, Kan.	2	.	.	.
*Washington, D. C., Central High School	1	.	.	.	.	.	.	2
*Washington, D. C., M St. High School	1	1	.
*Washington, D. C., Western High School	1	.	2	5	2	2	.
Washington School for Boys, Washington, D. C.	1	.	.	.
Washington University, St. Louis, Mo.	2	.	.	.	.	.	.
*Watertown, Phillips High School	1	.	1	2	.	.	1	.	4
*Waterville, N. Y., High School	1	.	.
*Webster High School	1	.	.	.	.	.	1	.
*Wellesley High School, Wellesley Hills	2	.	2	1	.	1	1
*Wellsville, O., High School	1	.	.	.	.	.
†Wesleyan Academy, Wilbraham	1
Wesleyan University, Middletown, Conn.	1	1	.	.	.	.	.	1	2	.
*West Aurora, Ill., High School	1	.	.	.	.	.	.	.
*Westboro High School	1	.	.	.	.	.	.
†West Bridgewater, Howard High School	1	.	.	1	.	.	.
*Westchester, Pa., State Normal School	1	1	1	1	.
Westerleigh Collegiate Inst., New Brighton, N. Y.	1	.
*Westerly, R. I., High School	2	.	.	1	1	.	.
Western Maryland College, Westminster, Md.	1	.	.	.
Western Reserve University, Cleveland, O.	1	.	.	.	.	.	.	.
*Westfield High School	1	.	.	.
*Westfield, N. Y., High School	1	.	.	.	.	.
Westminster School, Simsbury, Conn.	2	.	.	.	.	.	3	.
*Weston High School	1	.	.	.
*West Orange, N. J., High School	1	.	1	.	.	1	.
*West Roxbury High School, Jamaica Plain	1	.	.	.	1	.	.	.
*West Springfield High School	1	.	.	.
*Weymouth High School, Weymouth Centre	1	.	.	1	.	.	.	1	.	.
*White Plains, N. Y., High School	1
*Wilkes-Barre, Pa., High School	1	.	.	.	1	.	.	.	.
Willamette University, Salem, Ore.	1	.	1	.	.	.	.	.
†William Penn Charter School, Philadelphia, Pa.	3	.	.	1	.	1	2	.	1	1
Williams College, Williamstown	1	1	.	.	.	.	1	1
†Williston Seminary, Easthampton	1	.	.	.	2	.	.	.	2
Wilson-Vail School, New York, N. Y.	1	.	.	.	.	.	.	.
*Winchester High School	1	1	1	.	1	1	1	.	3	.
*Winthrop High School	1	.	.	.
Wittenberg College, Springfield, O.	1	.	.	1	.	.
*Woburn High School	1	2	.	.	2	4	1	2	.	3
Wofford College, Spartanburg, S. C.	1	.	.	.	.	.	.	.	.
Woodbridge School, New York, N. Y.	1	1	3	.	.	.	.
*Woodstock, Vt., High School	1	.	.	.	.	.

SCHOOL OR COLLEGE.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
*Woonsocket, R. I., High School	1	1	.	.	.	4	1	.	1	
†Worcester Academy, Worcester	1	3	7	4	7	6	2	3	.	4
*Worcester Classical High School	3	3	5	3	2	6	4	7	3	6
*Worcester English High School	1	.	.	.	.	.	.	.	.	.
Worcester Polytechnic Institute, Worcester . . . . .	.	.	.	1	.	.	.	.	.	.
*Worcester South High School . . . . .	.	.	.	.	.	.	1	1	.	.
†Wyoming Seminary, Kingston, Pa. . . . .	.	.	.	.	.	.	1	1	.	.
Yale University, New Haven, Conn. . . . .	.	.	.	2	.	1	1	.	.	.
*Yonkers, N. Y., High School . . . . .	.	.	.	.	.	.	.	1	1	.
York County Academy, York, Pa. . . . .	.	.	.	.	1	.	.	.	.	.
*Youngstown, O., Rayen High School	1	1	3	1	2	5	.	1	1	.
Private Pupils	23	17	12	13	19	19	17	10	13	18

Allen School, New York, N.Y., changed to Allen-Stevenson School.

Barnard School, St. Paul, Minn., changed to St. Paul Academy.

Carteret School, Short Hills, N.J., changed to Short Hills School.

Chicago, Ill., North Division High School changed to R. A. Waller High School.

Columbus, O., Latin School changed to University School in 1899.

Dr. Holbrook School, Ossining, N.Y. Name of place changed from Sing Sing.

Gates College, Neligh, Neb., changed to Gates Academy.

Montpelier, Vt., High School officially known as Washington County Grammar School.

Morse and Rogers Private School, formerly Morse's Private School.

Moses Brown School, Providence, R.I., changed from Friends' School in 1904.

Patterson-Davenport School, Louisville, Ky., changed from Louisville School for Boys.

St. Austin's School, West New Brighton, N.Y., changed to Salisbury School, Salisbury, Conn.

St. Bartholomew's School, Morristown, N.J., changed to Morristown School in 1898.

South Side Academy, Chicago, Ill., changed to University High School.

Westminster School, Simsbury, Conn., moved from Dobbs Ferry, N.Y., in 1900.

INDEX.

	PAGE
Agassiz House, Radcliffe College	320
Age of candidates for higher degrees	159
Ages of Faculty members	18, 14
Ages of Freshmen	81, 347
Althoff, Ministerial-Director	46
Alumni, Association of the	11
American Academy in Rome	49
Annual Appointments, cost of	20
Appleton Chapel	7
Appleton, Julia Amory, Fellowship	49, 848
APPOINTMENTS, SECRETARY FOR, Report of	57, 353
Architects, advisory committee of	58
Architecture, travelling fellowships in	49, 348
ARNOLD ARBORETUM, Report on	246
Publications	247
Association of American Universities	167
ATHLETIC SPORTS, Report on	128
Committee on Regulation of	128, 840
Eligibility rules	129
Financial policy	130
Professional coaches	132
Yale, agreement with	129
Bachelor of Arts, degree of	24
Candidates for, in Graduate School	100
Requirements of	100
Berlin, University of	47, 841
BOTANIC GARDEN, Report on	242
BUSSEY INSTITUTION, Report on	205
Appointments	339
Cabot, Walter Channing, Fellowship	51
Carnegie, Andrew, offer of, to Radcliffe College	321
Carnegie Institution	48
Carver, T. N., elected D. A. Wells Professor	38
CHEMICAL LABORATORY, Report on	43, 249
Publications	253
Child Memorial Fund	50, 349
Churches, reserved seats for students in	7
Class of 1846, Fund of	50, 849
College Entrance Examination Board	98
Colleges and Schools whence Students come	31, 359
Coolidge, A. C., gifts of	214, 225
Crocker School of Practical Mining	294
Croft Fund Cancer Commission	192
Cuban Experiment Station	242
Dane Hall, Chemical laboratories in	43, 250
Danforth, Allen	59
Deaths	5, 53, 105, 323

	PAGE
Deficits	58
Degrees	24
Degrees conferred, 1901-05	358
Degrees conferred in the middle of the year	86, 87
DENTAL SCHOOL, Report on	201
Administrative Board	389
Appointments	387
Courses of instruction	201
Crown and Bridge Work	203
Mechanical Dentistry	203
Operative Department	202
Orthodontia	203
Registration statistics	201
Site for proposed new building	204
Surgical clinics	202
DIVINITY SCHOOL, Report on	88, 169
Appointments	333
Colleges represented	170
Courses of instruction	172
Denominations represented in Summer School	171
Frothingham Professorship	38
Library	174
Summer School of Theology	88, 171
Theological seminaries represented	171
Emerson Hall	50, 263
Engineering Camp	94, 261
ENGINEERING, DIVISION OF, Report on	258
Publications	261
Ethics of the Social Questions	50
Everett, C. C., tablet in memory of	175
EXAMINATION PROCTORS	333
FACULTY OF ARTS AND SCIENCES, Report on	61
Administrative tendencies of	29
Ages of members	18, 14
Annual Appointments, cost of	20
Appointments	324
Changes in the personnel of	20, 21
Committee on Divers Plans for the Requirements of the degree of A.B.	101
Committee on Instruction	101, 103
Courses given in 1904-05	61-90
Decrease in number of students	22
Enrolments by departments	29, 30
Enrolments in large courses	90
Harvard College defined	12
Teachers from other departments in	16
Teachers and Students, relative number of	14, 15
Finances	58
FOGG ART MUSEUM, Report on	44, 310
Foot-ball, evils of	52
Freshmen, Ages of	31, 347
GEOLOGY AND GEOGRAPHY, DEPARTMENT OF, Report on	286
Publications	292
German Emperor, gift of	45
German Government, gift from the	218
German Universities, exchange of publications with	218
Interchange of professors with	45

	PAGE
GERMANIC MUSEUM, Report on	45, 815
Gifts	59
Graduate School a part of Harvard College	12
GRADUATE SCHOOL OF ARTS AND SCIENCES, Report on	86, 136
A.B. candidates in the	100
A.B., holders of	36
Administrative Board	136, 332
Admission requirements	36
Age of candidates for degrees	158, 159
Association of American Universities	167
Bachelors' degrees represented	148
Birthplaces of students	86, 151
Colleges and Universities whence students came	144, 149
Degrees conferred	152
Divisions and Departments represented by candidates for degrees	153
Doctors of Philosophy	155
Fellowships and scholarships	159
First-Year students: percentage from various institutions	148
Instructorships, Teaching Fellowships, and Assistantships	166
Name changed	86, 167
Number and classification of students	136
Number of elections of courses	141
Percentage of students in their first and following years	142
Percentage of students from other colleges	143
Residences of students	151
Resident students doing full work	139
GRAY HERBARIUM, Report on	236
Publications	239
HARRIS, James Rendel, Syriac MSS. from	307
HARVARD COLLEGE, Report on	82, 105
A.B. degree, candidates for	106
A.B. degree with distinction	103, 120
A.B. requirements in	101
Administrative Board	7, 118, 331
Admission examination statistics	107
Admission requirements	98
Ages of Freshmen	81, 847
College Entrance Examination Board	98, 115
Definition of	12
Discipline	118
Geographical distribution of students in	22, 23
Losses and gains	106
Probation	119
Registration statistics	105
Scholarship holders	116
Scholarships without stipend	35
Schools and Colleges whence students come	81, 359
Senior Class, shrinkage of	32, 105
Standard of work in	83, 101, 119
Three years' degree	33
Harvard Dining Association	54
Harvard Union	54
Higginson, H. L.	49, 321
Higginson, J. J., gift of	261
High Schools	32
History of Religion	39

	PAGE
Illness report	58, 350, 351
Inspector of Grounds and Buildings	7
JEFFERSON PHYSICAL LABORATORY, Report on	255
Publications	256
Kiernan, T. J.	235
LAW SCHOOL, Report on	39, 175
Admission requirements	39
Appointments	334
Holders of preliminary degrees in	41
New building	39
Lawrence Scientific School a part of Harvard College	12
LAWRENCE SCIENTIFIC SCHOOL, Report on	35, 124
Administrative Board	331
Discipline	36, 127
Loans to students	35, 125
Registration statistics	124
Lawrence, William	11
LIBRARY, Report on	42, 207
Accessions	213, 214
Catalogue Department	228
Chap-books, Catalogue of	212
Coin collection	214
"Continuations"	231
Coolidge, A. C., gifts of	214, 225
Curators appointed	212
"Dead" books	42, 226
Departmental libraries	221
Endowment needed	211
Financial condition	233
German Government, gift from the	218
German Universities, exchange of publications with	218
Gifts	217
Gore Hall, addition to, proposed	211
Hohenzollern Collection	226
Index-Guide to the Shelves	227
Kiernan, T. J.	235
von Maurer library	214
Norton, Charles Elliot, gift in honor of	215
Norton, Charles Elliot, library of	43
Open collections	223
Ordering Department	233
Radcliffe College, loans to	224
Shelf Department	225
Stack, admissions to	223
Sunday use of	224
Use of books	222
Lythgoe, A. M.	44
Massachusetts Institute of Technology, negotiations with	8, 341
Maurer, Konrad von, library of	214
MEDICAL SCHOOL, Report on	39, 183
Administrative Board	183, 337
Anatomy	183
Appointments	334
Bacteriology	186
Building	183
Chemistry, Physiological and Pathological	190

	PAGE
MEDICAL SCHOOL. — Concluded.	
Courses of instruction	194
Croft Fund Cancer Commission	192
Deficit	39
Degrees, preliminary, holders of	41
Examination statistics	198
Fourth year made elective	40
Graduate courses	40, 200
Histology and Embryology	185
Hygiene	193
Museum	193
Neurology	192
New buildings	40
Orthopedic surgery	192
Pathology	187
Pathology, Comparative	189
Pharmacology and Therapeutics	187
Physiology	188
Registration statistics	197
Scholarships and Fellowships	198
Summer courses	40, 200
Surgery	191
MEDICAL VISITOR, Report of	58, 350
MEDICINE, FACULTY OF, Report on	181
Memorial Hall	54
Meteorological Observatory	289
MINERALOGICAL MUSEUM, Report on	43, 299
Publications	300
MINING AND METALLURGY, Report on	294
Crocker School	294
Publications	298
Moore, E. C.	8
Moore, G. F., elected Frothingham Professor	39
MUSEUM OF COMPARATIVE ZOOLOGY, Report on	276
Publications	356
MUSEUM OF FINE ARTS, TRUSTEES OF	340
New England Conservatory of Music	87
Norton, Charles Elliot, gift to Library in honor of	48, 215
OBSERVATORY, Report on	47, 266
Blue Hill Meteorological Observatory	270
Boyden Department	269
Bruce photographic telescope	270
Draper Memorial	268
East Equatorial	267
Library	274
Longitude campaign	273
Meridian Circle	267
Meridian Photometer	268
Needs	272
Publications	274
Salaries of Assistants	48
St. Louis Exposition	274
Telegraphic announcements	274
Variable stars	271
Ostwald, W., Visiting Professor from Germany	47, 96
Paine, J. K., resignation of	6

	PAGE
Palestine, excavations in	51, 308
Peabody, F. G.	7, 47
Peabody, Francis Greenwood, Endowment	50
PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY,	
Report on	301
Publications	303
PREACHERS TO THE UNIVERSITY	340
President's Report, incompleteness of	59
Pritchett, H. S.	9, 10
PROCTORS	383
PSYCHOLOGICAL LABORATORY, Report on	263
Public Schools	32
RADCLIFFE COLLEGE, Report on	318
Reisner, G. A.	44, 51, 308
RESIGNATIONS	6, 328
Robinson, Nelson Jr., Fellowship	49, 348
Salaries increased	13
Schiff, Jacob H., gift of	51, 308
Scholarships without stipend	34, 35
Schools and Colleges whence students come	31, 359
SEMITIC MUSEUM, Report on	51, 307
Smith, C. L., resignation of	6
Soldier's Field, improvement of	128
Squam Lake, courses at	94, 261
Stadium	128
Statutes amended	7
STILLMAN INFIRMARY	53, 352
Storror, J. J., gift of	261
Summer Courses, 1905	30, 90
Credit for	95
Summer School of Theology	38, 171
Teachers and Students, relative number of	14, 15
Teachers' Endowment Fund	11, 48, 344
Three Years' Degree	33
Travelling Fellowships in Architecture	49, 348
Treasurer's Statement	58
Tuition Fees, decreased dependence on	14
Walcott, H. P.	339
Wells, David A., Professorship and Prize	37
Whitman, Sarah W., bequest of	321
Wood, E. S., death of	5
ZOOLOGICAL LABORATORY, Report on	280
Bermuda Biological Station	284
Publications	284, 285

TREASURER'S STATEMENT



1905

TREASURER'S STATEMENT.

TO THE BOARD OF OVERSEERS OF HARVARD COLLEGE: —

The Treasurer of the College submits the Annual Statement of the financial affairs of the University, for the year ending July 31, 1905, in the usual form.

The Funds separately invested, with the income thereof, are as follows: —

	UNIVERSITY.	Principal, July 31, 1905.	Income.
John W. Carter,			
University Houses and Lands,		\$12,500.00	\$451.05
George B. Dorris,			
University Houses and Lands,		115,966.56	4,225.86
George Draper,			
University Houses and Lands,		48,458.50	1,765.85
Robert H. Eddy,			
University Houses and Lands,		56,787.00	
John Davis William French (part),			
University Houses and Lands,		4,992.48	
John C. Gray,			
University Houses and Lands,		25,000.00	911.01
Walter Hastings,			
Real Estate, Sacramento St., Cambridge,		20,000.00	6.85
Insurance and Guaranty,			
University Houses and Lands,		32,005.06	2,082.28
Real Estate, Lucas St., Boston,		4,000.00	
Joseph Lee,			
University Houses and Lands,		10,000.00	864.40
Henry S. Nourse (part),			
25 shares Brookside Mills,		2,500.00	175.00
40 " Missouri Zinc Fields Co.,		120.00	20.00
3 " Pennsylvania Steel Co., common, . . .		8.00	
15 " Western Tel. & Tel. Co., preferred (sold during year),			38.75
Mortgage Notes,		7,300.00	598.95
Francis E. Parker,			
University Houses and Lands,		113,817.44	4,147.54
Amounts carried forward,		<u>\$453,450.04</u>	<u>\$14,777.54</u>

Amounts brought forward,	\$453,450.04	\$14,777.54
Riverside,		
6 shares Harvard Riverside Associates,	6,000.00	
Henry Villard,		
University Houses and Lands,	50,000.00	1,822.02
William F. Weld,		
University Houses and Lands,	100,000.00	8,644.08

COLLEGE.

T. Jefferson Coolidge, for Research in Physics,		
625 shares Massachusetts Electric Companies, pref.,	57,500.00	
Eaton Professorship of the Science of Government,		
Mortgages on real estate in New York City, . . .	84,000.00	4,065.00
Arthur T. Lyman Fund,		
Note of Boston Manufacturing Co. (paid during year),		962.50
Charles Eliot Norton Fellowship,		
\$15,000 Northern Pacific-Great Northern Joint 4's		
(C. B. & Q. collateral) of 1921,	14,100.00	600.00
George Foster Peabody Scholarship,		
\$6,000 Mexican Coal & Coke Co. 1st M., S. F. 5's		
of 1926,	4,800.00	300.00
Jonathan Phillips's Gift,		
\$10,000 City of Boston 3½'s of 1920,	10,000.00	350.00
Professorship of Hygiene (part),		
Policy of Mass. Hospital Life Insurance Co., . .	5,000.00	200.00
\$16,000 Northern Pacific-Great Northern Joint 4's		
(C. B. & Q. collateral) of 1921,	15,681.85	640.00
Scholarship of the Class of 1883,		
\$5,000 Brookline Gas Light Co. Gen'l M. 5's of 1918		
(sold during year),		138.89
Dunlap Smith Scholarship,		
\$5,000 Metropolitan West Side Elevated R. R. Ex-		
tension M. 4's of 1938,	4,700.00	200.00
Stoughton Scholarship (part),		
Real Estate in Dorchester,	1,294.30	100.00
Wales Professorship of Sanskrit,		
Real Estate, Cornhill, Boston,	40,000.00	1,688.71
Samuel Ward's Gift (part),		
Ward's (Bumkin) Island, Boston Harbor, . . .	1.00	
David Ames Wells (part),		
Real Estate in Brooklyn, New York (sold during		
year),		189.97
11 shares Walter A. Wood M. & R. Machine Co., .	550.00	
Edward W. Codman (part),		
\$5,000 Kansas City, Fort Scott & Memphis R. R.		
Cons. M. 6's of 1928,	6,250.00	150.00
10,000 Northern Pacific-Great Northern Joint 4's		
(C. B. & Q. collateral) of 1921,	9,800.00	100.00
Amounts carried forward,	\$868,127.19	\$39,908.66

Amounts brought forward,		\$863,127.19	\$29,908.66
Edward W. Codman (continued),			
10 shares	Boston & Albany R. R.,	2,520.00	25.00
55 "	Boston & Lowell R. R.,	18,200.00	220.00
63 "	Boston & Maine R. R., common,	10,710.00	110.25
19 "	Fitchburg R. R., preferred,	2,790.62	28.75
29 "	Old Colony R. R.,	5,945.00	50.75
37 "	Pere Marquette R. R., preferred,	2,923.00	74.00
50 "	" " " common (sold during year),		175.00
62 "	Old Boston National Bank,	6,618.50	124.00
8 "	Second National Bank (sold during year),		28.00
10 "	National Union Bank (sold during year),		35.00
2 "	Pacific Mills,	4,600.00	200.00
25 "	Barristers Hall Trust,	1,875.00	37.50
11 "	Boston Real Estate Trust,	18,225.00	225.00
25 "	Central Building Trust,	2,375.00	
25 "	Hotel Trust,	2,800.00	
12 "	Municipal Real Estate Trust,	1,200.00	24.00
Undivided half of real estate in Nahant, Mass., . .		10,733.72	
Daniel A. Buckley (part),			
Real Estate in Cambridge, Mass.,		57,700.00	2,596.05
" " Deer Isle, Me.,		1.00	
Teachers' Endowment (part),			
Broadway Realty Co. Purchase Money, 2d M. 5's of 1916,		5,000.00	

LIBRARY.

Ishabod Tucker (part),			
Policy of Mass. Hospital Life Insurance Co., . . .		5,000.00	200.00

LAW SCHOOL.

James Barr Ames Prize (part),			
Personal Note,		2,000.00	91.50

MEDICAL SCHOOL.

Calvin and Lucy Ellis (part),			
40,000 Northern Pacific-Great Northern Joint 4's (C. B. & Q. collateral) of 1921,		26,585.00	1,600.00
30 shares Boston & Providence R. R. Co. (sold in 1900, uncollected dividend),			75.00
Real Estate in Boston,		22,500.00	224.01
Real Estate in Eden, Bar Harbor, Maine,		10,000.00	
George C. Shattuck (part),			
\$25,000 Kansas City, Fort Scott & Memphis R. R. Cons. M. 6's of 1928 (\$203.70 deducted from income for sinking premium),		29,685.20	1,296.30
Amounts carried forward,		\$1,108,114.28	\$37,848.77

Amounts brought forward, \$1,108,114.28 \$87,848.77

OBSERVATORY.

Advancement of Astronomical Science (1902) (part),		
15 shares Calumet & Hecla Mining Co.,	9,000.00	675.00
Mortgage Note,	3,000.00	180.00
\$5,000 Northern Pacific-Great Northern Joint 4's		
(C. B. & Q. collateral) of 1921,	4,800.00	200.00

PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY.

Peabody Building (part),	} \$54,000 Kansas & Mis- souri R. R. 1st M. 5's of 1922,	11,512.72	622.32
Peabody Collection (part),		19,218.64	1,038.84
Peabody Professor (part),		19,218.64	1,038.84
Thaw (part) (\$8.48 deducted from income for sinking premium),			
\$20,000 Girard Point Storage Co. 1st M. 3½'s of 1940,		20,296.62	691.52

BUSSEY INSTITUTION.

Woodland Hill,		
Laboratory of Comparative Pathology building, .	18,647.40	1,000.00

ARNOLD ARBORETUM.

Robert Charles Billings,		
\$5,000 Butte Water Co. 1st M. 5's of 1921,	4,000.00	250.00

SPECIAL FUNDS.

Bussey Trust,		
Real Estate,	392,710.18	12,510.38
Robert Troup Paine (accumulating) (\$182.39 deducted from income for sinking premiums),		
\$38,000 Massachusetts 3½'s of 1913,	39,230.38	1,185.25
5,000 " " 1916,	5,229.40	154.15
4,000 " " 1935,	4,228.60	132.38
4,000 " " 1938,	4,352.91	99.48
Fund of the Class of 1834,		
Policy of Mass. Hospital Life Insurance Co., . . .	1,000.00	40.00
Fund of the Class of 1844,		
Policy of Mass. Hospital Life Insurance Co., . . .	6,500.00	260.00
Fund of the Class of 1853,		
Policy of Mass. Hospital Life Insurance Co., . . .	8,725.00	149.00
Charles L. Hancock Bequest (part),		
Real Estate in Chelsea,	1.00	
Calvin and Lucy Ellis Aid (part),		
Real Estate in Boston,	22,500.00	224.01

Amounts carried forward, \$1,692,285.72 \$57,794.84

Amounts brought forward,	\$1,692,285.72	\$57,794.84
George Smith Bequest (part),		
\$10,000 Du Quoin, Ill., Water Works Co. 6's of 1901,	1.00	
20,000 Laclede Gas Light Co. 5's of 1919, . . .	20,000.00	1,000.00
500 City of Whitewright, Texas, Permanent Improvement 6's of 1914 (sold during year),		15.00
32,000 United States Steel Corporation 5's of 1963,	24,000.00	1,600.00
115 shares Boatmen's Bank of St. Louis,	20,975.00	3,150.00
200 " Laclede Gas Light Co., preferred, . .	18,800.00	1,000.00
480 " United States Steel Corporation, pref. (sold during year),		780.00
Price Greenleaf. (\$664.31 deducted from income for sinking premiums.) The total amount of this Fund is \$788,865.31, which is invested as follows:—		
\$3,000 Chicago, Burl. & Quincy R. R. 4's of 1922,	2,880.00	120.00
360 shares Boston & Lowell R. R.,	46,800.00	2,880.00
317 " Boston & Maine R. R.,	48,724.00	2,219.00
237 " Fitchburg R. R., preferred,	22,806.27	1,185.00
355 " Old Colony "	63,190.00	2,485.00
28 " N. Y. Central & Hudson River R. R., . .	2,635.00	115.00
290 " Northern R. R. (N. H.),	29,290.00	1,740.00
52 " West End Street Railway, preferred, . .	4,305.56	208.00
34 " Central Vermont R'y,	428.72	
707 " Pennsylvania R. R.,	51,856.04	2,121.00
17 " Boston Real Estate Trust,	22,978.75	675.00
100 " Paddock Building Trust,	10,000.00	350.00
\$70,000 American Bell Telephone Co. 4's of 1908,	70,386.85	2,671.05
70,000 Broadway Realty Co. Purchase money 1st M. 5's of 1926,	73,960.46	3,315.78
24,000 Burl. & Mo. R. R. R. in Neb. non ex. 6's of 1918,	24,000.00	1,234.45
43,500 Central Vermont R'y 1st M. 4's of 1920, . .	37,845.00	1,740.00
50,000 Chic. Junc. R'y's & Union Stock Yards 5's of 1915,	47,000.00	2,500.00
8,000 Kansas City, Fort Scott & Memphis cons. M. 6's of 1928,	9,641.58	408.63
50,000 Metropolitan Tel. & Tel. Co. 1st M. 5's of 1918,	49,750.00	2,500.00
25,000 New England Tel. & Tel. Co. 6's of 1906, . .	25,074.21	1,425.78
34,000 New York Central & Hudson River R. R. (Michigan Central Collateral) 3½'s of 1998,	28,412.10	1,190.00
32,000 Northern Pacific—Great Northern Joint 4's (C. B. & Q. collateral) of 1921,	19,993.55	1,280.00
50,000 Union Pacific R.R. 1st M. & L.G. 4's of 1947,	44,625.00	2,000.00
50,000 Note of Massachusetts Cotton Mills, . . .	50,000.00	2,000.00
Cash in City Trust Co.,	2,782.22	82.60
Totals,	\$2,564,927.08	\$101,786.13

The other Funds are invested as a whole. The general investments are stated in detail on pages 52, 53, 54, and 55 of this report. The usual summary of them, and of their income, is as follows :—

Investments.	Principal, Aug. 1, 1904.	Principal, July 31, 1905.	Income.
Notes, Mortgages, &c.,	\$1,384,000.00	\$1,350,000.00	\$64,865.89
Public Funds,		108,584.55	2,000.00
Railroad Bonds,	5,853,823.19	6,241,828.41	252,852.86
Sundry Bonds,	1,827,982.44	2,188,970.90	82,992.63
Railroad Stocks,	805,375.17	656,962.36	33,074.75
Manufacturing and Telephone Stocks,	277,062.77	473,062.77	20,550.00
Real Estate Trust Stocks,	695,421.60	695,421.60	25,869.88
Real Estate,	2,805,087.56	2,298,970.21	147,194.84
Advances to Bussey Trust ,	53,501.81	232,671.81	4,359.21
“ “ Calvin & Lucy Ellis			
Real Estate,	5.54	167.12	
“ “ Dental School Real Estate ,		84.52	
“ “ Medical School Under-			
taking ,	496,101.77	751,311.98	27,571.09
“ “ Observatory ,	5,453.52	5,466.59	272.68
“ “ Peabody Museum of			
Am. Archaeology and			
Ethnology ,	2,041.66	1,981.04	91.87
“ “ Botanic Department ,	7,261.09	8,088.11	363.05
“ “ Dining Hall Association ,	45,990.14	76,649.77	2,579.67
“ “ Randall Hall “	33,202.27	32,202.27	1,660.11
“ “ Uriah A. Boyden			
Fund ,		3,160.73	
“ “ T. Jefferson Coolidge			
Fund ,		1,076.03	
“ “ Classical Publication Fund			
of the Class of 1856 ,	1,177.12	1,395.85	58.86
“ “ Woodland Hill Fund ,		2,011.46	
“ “ Stadium ,	57,932.73	55,886.08	2,953.35
“ “ Sundry Accounts ,	730.94	1,160.48	
Term Bills due in October,	249,422.71		
Term Bills overdue,	8,870.39	57,675.59	
Cash in Adams Trust Co.,	10,478.31	51,692.62	959.47
“ Equitable Trust Co. ,	105,938.41	48,787.87	1,369.35
“ Merchants National Bank ,		7,937.54	35.78
“ National Shawmut Bank ,		25,145.21	145.21
“ National Union Bank ,	15,413.69	61,719.58	363.39
“ Old Boston National Bank ,	4,253.87	42,858.31	1,894.01
“ hands of Bursar ,	29,455.96	38,217.37	
Totals of general investments ,	\$14,225,984.66	\$15,471,098.68	\$673,577.85
Totals of special investments ,	2,529,768.44	2,564,927.03	101,786.13
Amounts ,	\$16,755,753.10	\$18,036,025.71	\$775,363.98

At the meeting of the Corporation, October 26, 1891, it was

"*Voted*, that the sum of \$23,341.97 being the net gain from sales of bonds at a profit, heretofore credited to the account of Railroad Bond Premiums, be transferred as of July 31, 1891, to a new account to be called 'Gains and Losses for General Investments,' which account shall be credited with all gains and charged with all losses hereafter arising from sales of property belonging to the general investments. As this account belongs pro rata to all the Funds sharing in general investments it is not to be allowed interest when its balance is on the credit side nor to be charged with interest when its balance is on the debit side."

The gains arising from the sale during the year of certain railroad bonds, amounting to \$10,878.78, were credited to "Gains and Losses for General Investments" in accordance with the terms of the vote of October 26, 1891. The balance to the credit of that account, July 31, 1905, was \$596,522.01.

The sums of \$8,664.57 and \$1,058.88 have been deducted from the income of all bonds bought at a premium and held respectively as general and special investments, and have been applied, as the fair yearly repayment from income, toward sinking the whole of these premiums at the maturity of the bonds.

The net income of the general investments has been divided at the rate of $4\frac{22}{100}$ per cent. among the Funds to which they belong (excluding "Gains and Losses for General Investments"), after allowing special rates to certain temporary Funds and balances. The fraction, which was \$1,349.91, has been placed as usual to the credit of the University account.

The rate of income compared with that for 1903-04 shows an increase of fifteen one-hundredths of one per cent.

The following tables show in a summarized form the amount of income, gifts, etc., available for salaries, retiring allowances, and general expenses, the amount of expenditures for those purposes, and the resulting surpluses and deficits in the several departments of the University.

Neither the income nor the gifts, which are restricted to special uses, except in so far as those uses are the payment of salaries, retiring allowances, or general expenses, nor the expenditures therefrom, are included in these tables.

If the income of a restricted fund exceeds in any year the amount of the payments therefrom, such excess creates an addition to the principal thereof, which is temporary or permanent according to the terms of the restriction,—as in the case of Fellowship and Scholarship funds, etc. Therefore, in any year, there may be a surplus in the case of the restricted funds of a department, while there is a deficit in its general account.

If payments on account of a restricted fund exceed in any year the income available therefor, such excess of payments is treated as a loan or “advance” on account of general investments, which must be repaid from the future income of that fund.

If a “gift for immediate use” is not wholly spent before the end of the year, the unexpended balance thereof is included in the statement of “Funds and Balances” beginning on page 56.

THE UNIVERSITY. (See Table No. I, page 72.)

AVAILABLE FOR EXPENSES.

Income of Funds and balances,	\$64,937.17	
Gifts,	75.47	
Rents,	2,810.00	
Sales,	1,607.74	\$69,430.38

PAYMENTS.

Overseers' expenses,	\$1,749.97	
Office expenses,	18,517.74	
Salaries,	45,341.02	
Retiring allowances,	22,990.11	
Memorial Hall and Sanders Theatre,	5,400.76	
Peabody Museum of American Archaeology and Ethnology (part, see Table XIV, page 112),	1,263.44	
Semitic Museum (part, see Table XV, page 113),	1,590.84	
Germanic Museum (part, see Table XVI, page 114),	865.48	
William Hayes Fogg Art Museum (part, see Table XVII, page 114),	2,816.99	
Appleton Chapel (part, see Table XIX, page 116),	6,425.20	
Phillips Brooks House (part, see Table XX, page 117),	2,123.00	
General expenses,	28,980.26	138,014.81
Deficit,		\$63,584.48

**THE COLLEGE, INCLUDING THE LAWRENCE SCIENTIFIC SCHOOL AND
THE GRADUATE SCHOOL OF ARTS AND SCIENCES.**

(See Table No. II, page 75.)

AVAILABLE FOR EXPENSES.

Income of Funds and balances,	\$105,101.76	
Gifts,	17,722.95	
Rents,	175.00	
Sales,	3,601.31	
Insurance,	5,542.48	
Receipts from students (not including Tuition fees in the School for Social Workers, or Gymnasium locker fees),	558,718.05	
Sundry receipts at the Summer camp at Squam Lake, . .	15,019.46	\$705,881.01

PAYMENTS.

Salaries for instruction,	\$408,887.99	
Salaries for administration,	13,979.60	
Appropriations,	83,126.90	
Scholarships from unrestricted income,	3,400.00	
Expenses on account of public buildings,	40,013.36	
Expenses on account of dormitories,	48,639.79	
Summer Schools,	20,840.97	
Museum of Comparative Zoölogy (part, see Table XIII, page 111),	4,080.89	
Jefferson Physical Laboratory (part, see Table XVIII, page 115),	690.22	
Hemenway Gymnasium (part, see Table XXI, page 118), .	7,869.59	
General expenses,	72,956.21	653,985.52
Surplus,		\$51,895.49

THE LIBRARY. (See Table No. III, page 93.)

AVAILABLE FOR EXPENSES.

Income of Funds and balances,	\$30,730.92	
Gifts,	1,041.00	
Fees,	85.00	
Sales,	14.51	\$31,871.43

PAYMENTS.

Salaries,	\$14,150.00	
Services — cataloguing, administration, etc.,	20,574.19	
General expenses,	10,595.41	45,319.60
Deficit,		\$13,448.17

The University. — Deficit as above stated,	\$63,584.48
The Library. — Deficit as above stated,	13,448.17
	<u>\$77,032.60</u>
The College. — Surplus as above stated,	51,895.49
Deficit for the year in the combined accounts of the University, College, Lawrence Scientific School, Graduate School of Arts and Sciences, and Library, which has been paid from the principal of the Insur- ance and Guaranty Fund,	<u>\$35,137.11</u>
The deficit in these combined accounts for 1903-04 was	\$80,743.06
The principal of the Insurance and Guaranty Fund on July 31, 1905 was	<u>\$36,005.06</u>

DIVINITY SCHOOL. (See Table No. IV, page 96.)

AVAILABLE FOR EXPENSES.

Income of Funds and balances,	\$26,007.81	
Gifts,	2,124.01	
Sales,	128.25	
Repayments,	108.91	
Receipts from students,	<u>10,144.88</u>	\$38,508.81

PAYMENTS.

Salaries for instruction,	\$31,301.72	
Salaries for administration,	1,750.00	
Books,	610.94	
General expenses,	<u>7,982.07</u>	41,594.73
Deficit,		<u>\$3,085.92</u>

In 1903-04 there was a deficit of \$8,555.25
The Divinity School credit balance on July 31, 1905 was \$11,086.73

LAW SCHOOL. (See Table No. V, page 98.)

AVAILABLE FOR EXPENSES.

Income of Funds and balances,	\$31,521.00	
Sales,	55.00	
Repayments,	77.17	
Receipts from students,	<u>110,900.08</u>	\$142,553.25

PAYMENTS.

Salaries for instruction,	\$53,983.33	
Salaries for administration,	11,353.65	
Scholarships from unrestricted income,	7,900.00	
Books,	12,474.98	
General expenses,	<u>15,490.07</u>	101,202.03
Surplus,		<u>\$41,351.22</u>

In 1903-04 there was a surplus of \$44,674.21
The Law School credit balance on July 31, 1905 was \$322,908.17

MEDICAL SCHOOL. (See Table No. VI, page 100.)

AVAILABLE FOR EXPENSES.

Income of Funds and balances,	\$42,796.97	
Gifts,	6,250.00	
Receipts from students,	65,373.42	\$114,420.39

PAYMENTS.

Salaries for instruction,	\$98,657.32	
Salaries for administration,	4,229.20	
Retiring allowance,	1,000.00	
Appropriations,	9,774.35	
General expenses,	25,618.45	139,274.32
Deficit,		<u>\$24,853.93</u>

In 1903-04 there was a deficit of \$15,759.08

The Medical School credit balance on July 31, 1905 was \$5,560.57

DENTAL SCHOOL. (See Table No. VII, page 105.)

AVAILABLE FOR EXPENSES.

Income of Funds and balances,	\$2,280.78	
Fees from Infirmary,	6,189.09	
Sales,	330.53	
Receipts from students,	17,382.60	\$26,183.00

PAYMENTS.

Salaries for instruction,	\$10,795.00	
Salaries for administration,	550.00	
General expenses,	13,956.26	
Real estate (part, paid from accumulated income),	20,000.00	45,301.26

Deficit, which is caused by the payment of
\$20,000 from accumulated income on account
of the cost of real estate bought for the site
of the proposed new building (otherwise there
would have been a surplus of \$881.74), \$19,118.26

In 1903-04 there was a surplus of \$565.28

The Dental School credit balance on July 31, 1905 was \$11,346.73

BUSSEY INSTITUTION. (See Table No. VIII, page 106.)

AVAILABLE FOR EXPENSES.

Income of Funds and balances,	\$5,679.84	
Rents,	720.00	
Sales,	147.31	
Board of animals,	5,196.84	
Horticultural Department receipts,	1,796.74	
Receipts from students,	2,355.50	

Amount carried forward, \$15,896.23

Amount brought forward, \$15,896.28

PAYMENTS.

Salaries for instruction,	\$8,000.00	
Horticultural Department expenses,	1,961.56	
General expenses,	7,857.02	17,818.58
Deficit,		<u>\$1,422.35</u>
In 1903-04 there was a surplus of	\$806.70	
The Bussey Institution credit balance on July 31, 1905 was	\$27,143.83	

ARNOLD ARBORETUM. (See Table No. IX, page 107.)

AVAILABLE FOR EXPENSES.

Income of Funds and balance,	\$14,771.97	
Gifts,	36,846.11	
Sales,	1,592.85	<u>\$53,210.93</u>

PAYMENTS.

Salaries,	\$3,500.00	
Rent,	150.00	
General expenses,	19,424.29	
Real estate,	20,281.35	43,855.64
Surplus,		<u>\$9,855.29</u>
In 1903-04 there was a surplus (from gifts) of	\$4,701.04	
The Arboretum Construction Gifts credit balance on July 31, 1905 was	\$28,905.81	

BOTANIC GARDEN AND BOTANIC MUSEUM.
(See Table No. X, page 108.)

AVAILABLE FOR EXPENSES.

Income of Funds,	\$4,515.06	
Gifts,	3,362.00	
Rent,	700.00	
Sales,	500.00	<u>\$9,077.06</u>

PAYMENTS.

Interest on debt,	\$363.05	
General expenses,	9,541.03	9,904.08
Deficit,		<u>\$827.02</u>
In 1903-04 there was a deficit of	\$363.11	
The debt of the Botanic Garden and Botanic Museum on July 31, 1905 was	\$8,088.11	

GRAY HERBARIUM. (See Table No. XI, page 108.)

AVAILABLE FOR EXPENSES.

Income of Funds and balance,	\$3,478.78	
Asa Gray's copyrights,	784.80	
Gifts,	4,270.00	
Sales and commissions,	<u>2,043.72</u>	\$10,577.80

PAYMENTS.

Salaries,	\$5,700.00	
General expenses,	<u>4,934.68</u>	10,634.68
Deficit,		<u>\$57.88</u>

In 1903-04 there was a deficit of	\$960.71
The Gray Herbarium credit balance on July 31, 1905 was	<u>\$882.39</u>

OBSERVATORY. (See Table No. XII, page 109.)

AVAILABLE FOR EXPENSES.

Income of Funds,	\$32,079.80	
Appropriation from Fund for the Advancement of Astro- nomical Science (1902),	3,000.00	
Rent,	600.00	
Sales,	<u>170.77</u>	\$35,850.57

PAYMENTS.

Salaries,	\$16,600.00	
Services,	7,289.61	
Interest on debt,	272.68	
General expenses,	<u>11,701.35</u>	35,868.64
Deficit,		<u>\$18.07</u>

In 1903-04 there was a deficit of	\$2,090.68
The debt of the Observatory on July 31, 1905 was . . .	<u>\$5,466.59</u>

MUSEUM OF COMPARATIVE ZOOLOGY.

(See Table No. XIII, page 111.)

AVAILABLE FOR EXPENSES.

Income of Funds and balance,	\$30,203.48	
Use of lecture room,	700.00	
Sales,	175.88	
Repayment,	<u>485.19</u>	\$31,564.05

PAYMENTS.

Salaries,	\$8,600.00	
General expenses,	<u>22,893.35</u>	
	\$31,493.35	

Less the amount which was paid from College income (see Table No. I, page 75),	<u>4,080.89</u>	27,412.46
Surplus,		<u>\$4,151.59</u>
In 1903-04 there was a deficit of	\$879.67	
The Museum of Comparative Zoology credit balance on July 31, 1905 was		<u>\$32,306.32</u>

**PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND
ETHNOLOGY.**

(See Table No. XIV, page 112.)

AVAILABLE FOR EXPENSES.

Income of Funds,	\$6,499.12	
Gifts,	725.00	
Use of heating plant,	75.00	\$7,299.12

PAYMENTS.

Salary of Peabody Professor and Curator,	\$2,379.97	
Interest on debt,	91.87	
General expenses,	6,030.10	
	<u>\$8,501.94</u>	
Less the amount which was paid from University income (see Table No. I, page 72),	1,263.44	7,238.50
Surplus, which has been applied toward the pay- ment of the debt,		<u>\$60.63</u>
In 1903-04 there was a surplus, which was applied toward the payment of the debt, of	\$1,081.85	
The debt of the Peabody Museum of American Archae- ology and Ethnology on July 31, 1905 was	\$1,981.04	

SEMITIC MUSEUM. (See Table No. XV, page 113.)

AVAILABLE FOR EXPENSES,

Nothing.

PAYMENTS.

Salary of Curator,	\$500.00	
General expenses,	1,090.84	
Deficit, which was paid from University income (see Table No. I, page 72),		<u>\$1,590.84</u>
In 1903-04 there was a deficit of	\$1,784.84	

GERMANIC MUSEUM. (See Table No. XVI, page 114.)

AVAILABLE FOR EXPENSES.

Gift,	\$150.00
-----------------	----------

PAYMENTS.

General expenses,	1,015.48	
Deficit, which was paid from University income (see Table No. I, page 72),		<u>\$865.48</u>
In 1903-04 there was a deficit of	\$1,042.09	

WILLIAM HAYES FOGG ART MUSEUM.

(See Table No. XVII, page 114.)

AVAILABLE FOR EXPENSES.

Income of Funds and balance,	\$2,465.36	
Sales,	8.50	\$2,473.86

PAYMENTS.

Salary of Curator,	\$500.00	
General expenses,	4,424.19	
	<u>\$4,924.19</u>	
Less the amount which was paid from University income (see Table No. I, page 72),	2,816.99	2,107.20
Surplus,		<u>\$366.66</u>
In 1903-04 there was a deficit of	\$113.86	
The William Hayes Fogg Art Museum credit balance on July 31, 1905 was	\$475.19	

JEFFERSON PHYSICAL LABORATORY.

(See Table No. XVIII, page 115.)

AVAILABLE FOR EXPENSES.

Income of Funds and balance,	\$3,776.00
--	------------

PAYMENTS.

General expenses,	\$4,127.68	
Less the amount which was paid from College income (see Table No. II, page 75),	690.22	3,437.46
Surplus,		<u>\$338.54</u>
In 1903-04 there was a deficit of	\$429.03	
The Jefferson Physical Laboratory credit balance on July 31, 1905 was	\$2,087.04	

APPLETON CHAPEL. (See Table No. XIX, page 116.)

AVAILABLE FOR EXPENSES.

Income of Funds,	\$2,510.87
----------------------------	------------

PAYMENTS.

Preaching and morning services,	\$3,258.50	
Salaries of administrator, organist, and choir-master,	2,200.00	
General expenses,	3,477.57	8,936.07
Deficit, which was paid from University income (see Table No. 1, page 72),		<u>\$6,425.20</u>
In 1903-04 there was a deficit of	\$5,992.96	

PHILLIPS BROOKS HOUSE. (See Table No. XX, page 117.)

AVAILABLE FOR EXPENSES.

Income of Funds,	\$739.90	
Gifts,	750.00	\$1,489.90

PAYMENTS.

Salary of Secretary,	\$850.00	
General expenses,	2,762.90	3,612.90

Deficit, which was paid from University income (see Table No. I, page 72),	\$2,123.00
---	------------

In 1903-04 there was a deficit of \$1,702.61

HEMENWAY GYMNASIUM. (See Table No. XXI, page 118.)

AVAILABLE FOR EXPENSES.

Fees for the use of the Gymnasium,	\$36.48	
Fees for the use of Gymnasium lockers,	3,156.00	\$3,242.48

PAYMENTS.

Salaries,	\$4,700.00	
General expenses,	7,926.02	

\$12,626.02

Less the following items:—

Amount paid from Divinity School income
(see Table No. IV, page 96), \$108.12

Amount paid from Law School income (see
Table No. V, page 98), 1,905.88 2,014.00 10,612.02

Deficit, which was paid from College income (see
Table No. II, page 75), \$7,369.59

In 1903-04 there was a deficit of \$5,062.24

STILLMAN INFIRMARY. (See Table No. XXII, page 118.)

AVAILABLE FOR EXPENSES.

Income of Funds,	\$4,060.87	
Annual fees,	14,860.00	
Receipts from patients,	5,752.39	\$24,672.69

PAYMENTS.

Services—administration, nursing, etc.,	\$5,488.11	
Other expenses,	12,811.28	18,299.39

Surplus, \$6,373.30

In 1903-04 there was a deficit of \$1,831.81

Gifts have been received during the year as follows:—

GIFTS TO FORM NEW FUNDS OR TO INCREASE OLD ONES.

From the estate of Richard W. Foster, \$12,500, one-half of his unrestricted bequest.

From these friends and lovers of Edward William Hooper, \$25,000, for founding a Fellowship in his name:—

Henry Adams.

W. S. Bigelow.

Charles F. Folsom.

John C. Gray.

F. L. Higginson.

H. L. Higginson.

Thornton K. Lothrop.

H. P. Walcott.

From the Trustee under the will of George H. Emerson, \$1,350.77 in cash, and securities valued at \$4,511.99, on account of the principal of Mr. Emerson's residuary bequest, the income thereof to be used for four scholarships for regular graduates of the Departments of Zoölogy, Geology, Mineralogy, and Chemistry in the Lawrence Scientific School.

From the Harvard Club of Philadelphia, \$550, to be added to the endowment of "The Philadelphia Scholarship."

From the estate of Mrs. Sarah Wyman Whitman, her bequest of \$10,000, "for the maintenance of a scholarship in history, to be known as the Charles Wyman Scholarship."

From the estate of Daniel A. Buckley, \$8,685.52 in cash, and real estate valued at \$47,201. The income of this property is to be used toward the support, education, and maintenance in Harvard University of needy and meritorious graduates of public, non-sectarian schools in the City of Cambridge.

From the estate of Lucy Ellis, \$2,399.37, the United States legacy tax refunded, on account of her residuary bequest.

From the estate of Edwin A. W. Harlow, \$1607.57, on account of his residuary bequest "for assisting poor young men of excellent moral character in the Academic Department."

From the estate of Philo Sherman Bennett, \$400, to establish a prize "for the best essay discussing the principles of free government."

From the Class of 1888, \$2,700, for establishing the Lloyd McKim Garrison Prize and Medal Fund, from the income of which a cash prize of \$100 and a silver medal "are to be

awarded in each College year to the writer of the best poem on a subject or subjects annually to be chosen and announced by a committee of the English Department."

From the estate of Edward W. Codman, \$11,674.84 in cash, and real estate and securities valued at \$309,687.06, on account of his residuary bequest "for uses connected with the Academic Department."

For the Teachers' Endowment Fund, \$736,225.28, from more than seventeen hundred contributors.

From members of the Class of 1880, including temporary members and the families of members of the Class who are not now living, on the twenty-fifth anniversary of their graduation, \$100,000, "to be held by the Corporation as a permanent and distinct fund, — known as the 'Class of 1880 Fund,' — the income of which shall be yearly devoted to such purposes and uses for the benefit of Harvard College as may be yearly determined by the President and Fellows." No restriction is imposed upon the Corporation as to the disposition of the income, but a preference is expressed "that it may be used to increase the compensation of the teachers of the College."

From Mrs. Walter Channing Cabot, Henry Bromfield Cabot, Mrs. Robert Treat Paine, 2d, Mrs. Ralph Emerson Forbes, Walter Mason Cabot, and Mrs. Henry Dwight Sedgwick, \$50,000, to establish the Walter Channing Cabot Fund or Fellowship, "the income thereof to be applied in payments to professors or instructors in the general field of literature, history, or art, as such terms may be liberally interpreted."

From the Class of 1885, \$172.50, to be added to the Class Subscription Fund.

From an anonymous giver, \$100,000, to establish "The Francis Greenwood Peabody Endowment" for the encouragement of the Studies of the Ethics of the Social Questions.

From William M. Spackman, \$2,500, for unrestricted use in the College.

From the estate of Jerome Wheelock, \$10, the second payment of that amount, for establishing the Jerome Wheelock Fund of \$100,000.

From the Class of 1846, its class fund of \$10,571.07, to be held as "The Fund of the Class of 1846" until the death of

the last surviving member of the Class, and then to be transferred and added to the Francis James Child Memorial Fund.

From Frederick Le Roy Sargent, \$50, to be added to the Francis James Child Memorial Fund.

From the Committee which collected the money from the subscribers, \$8,500, for a book fund in honor of Professor Charles Eliot Norton, the income thereof to be "devoted to the purchase of such books as Professor Norton may suggest."

From James Barr Ames, \$500, "to be applied, under the direction of the Dean of the Law School, for the benefit of law students who are in need of pecuniary aid and who by reason of their character, capacity and health promise to be efficient and influential members of the community in which they live."

From an anonymous giver, \$5,000, to establish a fund, the income of which "shall be payable every year to such meritorious and needy students in the Harvard Medical School as shall be recommended by the Administrative Board of the Medical School."

From Mrs. Arthur W. Blake, \$500, to be added to the F. B. Greenough Fund for Surgical Research.

From George B. Shattuck, \$1,000, to be added to the Shattuck Professorship of Pathological Anatomy.

For the Arnold Arboretum Fund, from

Caleb Chase	\$100
Robert H. Gardiner	25
B. F. Keith	110
Massachusetts Society for Promoting Agriculture . .	500
A. Shuman	100
	<u>\$835</u>

From an anonymous giver, \$1,000, to be added to the Fund for the Advancement of Astronomical Science (1902).

The total amount of these gifts for capital account is \$1,455,131.97, as is also stated on page 44 of this report.

GIFTS FOR IMMEDIATE USE.

From several recently graduated College classes, \$24.47, the final payment toward the cost of the fence built for the purpose of insuring better control of the College Yard on Commencement Day.

From an anonymous giver, \$150, to provide for opening the Germanic Museum on Sunday and Thursday afternoons.

From an anonymous giver, \$750, to be used, under the direction of Professor Peabody, in connection with the Phillips Brooks House.

From James DeNormandie, \$20, an unrestricted gift.

From the Harvard Club of Western Pennsylvania, \$31 additional, toward the expenses of the Harvard University exhibit at the St. Louis Exposition.

From Jacob H. Schiff, \$5,000, to pay for preliminary expenses in connection with excavations in Palestine, which are to be made during a term of five years under the auspices of the Semitic Museum, at a total outlay of \$50,000, which Mr. Schiff has offered to give.

From James H. Hyde, \$500, for the Fellowship of the Cercle Français de l'Université Harvard; and \$55.01 for the French Department Library.

From Charles F. McKim, \$1,000, for the Julia Amory Appleton Travelling Fellowship in Architecture for 1904-05.

For the South End House Fellowship, from

Julian L. Coolidge	\$100
William A. Dupee	25
Edward W. Grew	25
Randolph C. Grew	100
Edward J. Holmes	100
Herbert Lyman	20
	<u>\$370</u>

From an anonymous giver, \$350, for the Ricardo Prize Scholarship for 1905-06.

From an anonymous giver, \$100, to be used in the same way as the income of Scholarship funds is used.

From Mrs. C. M. Barnard, \$600, her twenty-second yearly gift for the Warren H. Cudworth Scholarships.

From the Harvard Club of Buffalo, \$200, for the Scholarship of the Harvard Club of Buffalo.

From the Harvard Club of Chicago, \$300, for the Scholarship of the Harvard Club of Chicago for 1904-05.

From the Harvard Club of Louisiana, \$266.30, for the Scholarship of the Harvard Club of Louisiana for 1904-05.

From the Harvard Club of St. Louis, \$300, for the Scholarship of the Harvard Club of St. Louis for 1904-05.

From the Harvard Club of San Francisco, \$300, for the Scholarship of the Harvard Club of San Francisco for 1904-05.

From the Lawrence Scientific School Association, \$150, for a scholarship in the Summer Course, Mining 12, for 1905.

Through George P. Baker, \$25, for a prize in English 18.

From Philippe Belknap Marcou, \$50, for a prize for French composition, to be called the Jeremy Belknap Prize, as a memorial to Dr. Jeremy Belknap of the Class of 1762.

From an anonymous giver, \$250, for the salary of an Assistant in Physics.

From Samuel Cabot, \$212, for a salary in the Division of Chemistry.

From Elliot C. Lee, \$200, toward the salary of an Instructor in Anthropology for 1904-05.

From Théodoré Lyman, \$150, for the salary of an Assistant in Physics for 1904-05.

From Edward D. Pearce, \$100, an addition to the salary of an Instructor in the College.

Toward the expenses and salary of an Instructor to accompany the class in Mining 12 on an excursion through the South, and for the general welfare of the Department of Mining and Metallurgy, from

E. C. Felton	\$50
Hennen Jennings	50
R. A. F. Penrose	50
C. P. Perin	50
Q. A. Shaw, Jr.	50
Frank H. Taylor	50
B. B. Thayer	50
	<hr/>
	\$350

Toward the salary for 1904-05 and 1905-06 of an Instructor in the Department of Zoölogy, from

William Brewster	\$25	Amount brought forward . .	\$800
Louis Cabot	100	Miss Amy Lowell	200
Arthur A. Carey	375	James L. Paine	25
A friend	25	Dudley L. Pickman	50
Augustus Hemenway	200	William H. Slocum	25
Samuel Hill	50	George R. White	25
C. W. Hubbard	25		<hr/>
Amount carried forward . .	\$800		\$1,125

From Gardiner M. Lane, his second gift of \$1,000, for lectures to be given, under the auspices of the Department of the Classics, by some well known scholar or literary man from abroad.

From an anonymous giver, \$200, toward the establishment and equipment of a meteorological observatory for the use of the Department of Geology and Geography.

From an anonymous giver, \$5,000, to be expended under the direction of Professor Peabody for the Department of the Ethics of the Social Questions.

From a friend of the Mineralogical Museum, \$100, toward the cost of obtaining certain exhibits at the St. Louis exposition.

From Sir John Murray, \$100, for a collection of deep sea deposits for the Department of Geology and Geography.

For the use of the Museum of Classical Archaeology, from

W. A. Gardner	\$100
Gardiner M. Lane	100
	<u>\$200</u>

From James Sturgis Pray, \$5.40, toward expenses in the Department of Landscape Architecture.

For the School for Social Workers, from

William S. Bigelow	\$2,000
Henry L. Higginson	2,000
Joseph Lee	2,000
	<u>\$6,000</u>

From Henry L. Shattuck, \$600, an unrestricted gift for the general expenses of the Undergraduate Department of Harvard College.

For the Bermuda Biological Station for Research, from

Augustus Hemenway	\$100
Theodore Lyman	200
John C. Phillips	800
James F. Porter	50
John E. Thayer	500
Robert Willson	50
	<u>\$1,200</u>

From Dudley L. Pickman, \$50, for the purchase of extra copies of the contributions from the Zoölogical Laboratory.

For the improvement of Hollis and Stoughton Halls, from

Gordon Abbott	\$200	Amount brought forward . .	\$4,285
Robert Bacon	1,000	B. S. Hurlbut	15
Walter C. Baylies	200	A. Lawrence Lowell	100
Thomas P. Beal	100	J. P. Morgan, Jr.	500
Shepherd Brooks	500	Neal Rantoul	100
T. Jefferson Coolidge, Jr.	500	Frank Graham Thomson	500
Frederic Cunningham	10	C. M. Weld	100
William Endicott, Jr.	500	Stephen M. Weld	200
Frederick P. Fish	200	Edward F. Whitney	500
John C. Gray	50	George Wigglesworth	1,000
Augustus Hemenway	1,000	Robert Winsor	1,000
F. L. Higginson, Jr.	25		
			<u>\$8,800</u>
Amount carried forward . .	\$4,285		

From J. J. Higginson, \$1,500, for the enlargement of the estate at Squam Lake.

From J. J. Storrow, \$1,000, for use at the summer camp at Squam Lake.

From Mr. Humphrey O'Sullivan, \$50, for special use in connection with the summer camp at Squam Lake.

For building Emerson Hall, from

Mrs. Louis Cabot	\$100
Miss M. W. Calkins	25
James J. Storrow	100
Mr. and Mrs. Nelson Robinson	5,000
	<u>\$5,225</u>

From an anonymous giver, \$13,000, "for furnishings of the Department of Social Ethics in Emerson Hall."

From Mr. and Mrs. Nelson Robinson, \$22,500, toward furnishing Emerson Hall, and for additions to the equipment of the Psychological Laboratory.

For the Botanic Garden and Botanic Museum, from

Oliver Ames	\$500
Anonymous	500
Anonymous	500
Edwin F. Atkins	600
William A. Bancroft	50
Arthur F. Estabrook	1,000
Miss Mary Lee Ware	212
	<u>\$3,362</u>

From Nathaniel C. Nash, \$2,186.34, for alterations in the N. C. Nash Botanical Lecture Room in the University Museum.

For the Gray Herbarium, from

R. L. Agassiz	\$10	Amount brought forward . . .	\$995
James Barr Ames	10	Francis B. Forbes	25
Miss Mary S. Ames	25	Mrs. William H. Forbes	5
Mrs. Oliver Ames	100	Francis A. Foster	10
Anonymous	100	Francis C. Foster	10
Anonymous	150	Mrs. Francis C. Foster	10
Anonymous	25	Miss Harriet E. Freeman	10
Howard Payson Arnold	25	Miss C. A. French	10
Edwin F. Atkins	25	A friend	25
Miss Mary F. Bartlett	25	Robert H. Gardiner	10
Walter C. Baylies	10	George A. Goddard	10
Thomas P. Beal	10	Miss A. M. Goodwin	10
A. C. Bent	10	Mrs. Henry S. Grew	10
Mrs. Arthur W. Blake	10	George W. Hammond	10
William P. Blake	10	Mrs. George W. Hammond	10
Miss Mary E. Blatchford	5	E. B. Haskell	5
James C. Braman	5	Augustus Hemenway	10
Mrs. J. L. Bremer	10	Mrs. A. Hemenway	10
Edward M. Brewer	10	Miss Clara Hemenway	10
William Brewster	10	Miss Annie P. Henchman	10
Addison Brown	10	J. P. B. Henshaw	10
Harold Haskell Brown	10	Robert C. Hooper	10
Stephen Bullard	10	Miss Katharine Horsford	25
Allston Burr	25	Clement S. Houghton	10
Mrs. Charles P. Cheney	10	Henry S. Howe	10
Charles F. Choate	10	Charles W. Hubbard	10
Miss Helen Collamore	10	Henry S. Hunnewell	10
George G. Crocker	10	Walter Hunnewell	10
Mrs. C. A. Cummings	10	Bernard Jenney	10
Charles P. Curtis	10	Edward C. Johnson	10
Henry P. Curtis	10	G. G. Kennedy	500
Mrs. J. F. Curtis	10	David P. Kimball	10
Louis Curtis	10	Mrs. David P. Kimball	10
Mrs. Abram E. Cutter	10	Henry H. Kimball	10
Samuel B. Dana	10	Lemuel C. Kimball, Jr.	10
Frank A. Day	25	George C. Lee	10
Walter Deane	15	J. R. Leeson	250
George B. Dorr	10	George V. Leverett	25
Mrs. Samuel Elliot	10	Mrs. George Linder	10
Mrs. J. W. Elliot	10	Mrs. Mary E. Lodge	15
William Endicott	10	Augustus P. Loring	10
William Endicott, Jr.	25	Mrs. Augustus P. Loring	10
A. F. Estabrook	100	Miss Katharine P. Loring	10
D. B. Fay	10	Miss Louisa P. Loring	10
J. S. Fay, Jr.	10	William Caleb Loring	10
Mrs. J. N. Fiske	10	Arthur T. Lyman	10
Miss Amy Folsom	10	Haslett McKim	10
Amount carried forward . . .	\$995	Amount carried forward . . .	\$2,240

Amount brought forward . . .	\$2,240	Amount brought forward . . .	\$3,090
Miss E. F. Mason	10	Mrs. K. W. Sears	10
Charles Merriam	10	Francis Shaw	10
Miss Susan Minns	25	Mrs. G. H. Shaw	10
Albert Hanford Moore	10	David N. Skillings	10
Mrs. S. T. Morse	10	Francis Skinner	50
William A. Munroe	10	Francis Skinner, Jr.	10
Grenville H. Norcross	10	F. P. Sprague	10
Mrs. Otis Norcross	10	Robert H. Stevenson	10
Mrs. Otis Norcross, Jr.	10	Nathaniel H. Stone	10
Peder Olsen	20	Charles H. Taylor, Jr.	10
Mrs. Henrietta Page	25	John E. Thayer	100
Charles W. Parker	10	Miss Helen W. Tinkham	10
Frank E. Peabody	10	Charles H. Tweed	10
F. H. Peabody	500	B. Vaughan	10
Miss M. R. Peabody	10	Miss Caroline E. Ward	10
Mrs. J. C. Phillips	25	Miss Cornelia Warren	10
Henry Pickering	10	Benjamin M. Watson	10
Mrs. Henry Pickering	10	F. G. Webster	20
Mrs. Dudley L. Pickman	10	Mrs. F. G. Webster	20
David Pingree	10	Mrs. Charles W. Welch	10
Miss Elizabeth C. Putnam	5	Mrs. Charles T. White	10
Miss Sarah E. Read	10	George R. White	500
Mrs. William Howell Reed	10	S. B. Whiting	10
George E. Richards	10	George Wigglesworth	10
S. W. Rodman	10	Emile F. Williams	100
Denman W. Ross	10	John D. Williams	20
Mrs. M. Dennian Ross	10	Moses Williams	50
Mrs. Waldo O. Ross	10	Ralph B. Williams	100
J. E. Rothwell	10	Mrs. Charlotte F. Woodman	10
Timothy T. Sawyer	10	Miss Mary Woodman	10
George O. Sears	10	John G. Wright	10
Amount carried forward . . .	\$3,090		\$4,270

For the purchase of books for the College Library, from

John G. Ames, for books from the Rowfant library . . .	\$100
Winthrop Ames, for the theatrical collection	500
George Gardner Amory, for books in English literature of the seventeenth and eighteenth centuries	25
Anonymous	28
Mrs. John C. Bancroft, for books on Japan	250
Hiram Bingham, for books on South America	4.95
Lawrence Smith Butler, for books on Paris	50
Archibald Cary Coolidge	579.62
Alexander Cumming, for Spanish periodicals	8
W. Bayard Cutting, Jr., for books on Florentine History	100
W. Bayard Cutting, Jr.	20
Ellis L. Dresel, for German Drama	50
George Duncan, for books on Scottish history	50
Amount carried forward	\$1,760.57

Amount brought forward	\$1,760.57
Allan Forbes, for books on Scottish history	10
E. H. Gay, for books in English literature of the seven- teenth and eighteenth centuries	10
H. H. Hunnewell, for books from the Rowfant library	25
James Loeb, for publications of Labor Unions	100
Arthur T. Lyman, for books on the older literature of political economy	50
Edwin Stanton Mullins, for books on folk-lore	50
William Phillips, for books, maps, etc., on London	100
Francis Skinner, for books on Venice and Northern Italy	1,000
John Harvey Treat, for books on the Catacombs and Christian Antiquities of Italy	300
Lucius C. Tuckerman, for books on the Republic of Mexico	50
H. E. Ware, for books on folk-lore	25
Alain C. White, for books for the Dante collection, or other books	250
	<u>\$3,730.57</u>

From Mrs. George A. Nickerson, \$200, her second yearly gift in memory of her husband, George Augustus Nickerson, A.B. 1876, LL.B. 1879, for the purchase of books on folk-lore, for the College Library.

For the Classical Library, from

William Amory Gardner	\$100
Gardiner M. Lane	100
	<u>\$200</u>

From the Cercle Français of Harvard University, \$100, for the purchase of books for the French Department Library.

From the Department of Mathematics, \$15, for the purchase of books for the library of that Department.

From H. G. Curtis, \$26.21, for negatives from the reverse sides of a series of medals, which were previously given by him.

From Archibald Cary Coolidge, \$986, for the services of an assistant in the College Library.

From K. G. T. Webster, \$75, to cover the expense of keeping the libraries in Warren House open in the evening from April first to the end of the term.

From William Amory Gardner, his third gift of \$10,000 toward the construction of a new University Library Building.

From the Society for Promoting Theological Education, \$2,124.01, for the Library of the Divinity School.

For the Medical School Undertaking, from

J. Pierpont Morgan, \$486,000, on account of his offer for the erection of three Memorial Halls.

Mrs. Collis P. Huntington, \$147,913, the final payment on account of her offer of \$250,000 for the erection of the Collis P. Huntington Laboratory.

David Sears, \$45,000, the final payment on account of his offer of \$250,000 for the erection of one of the buildings.

Through Thomas Dwight, \$525, for defraying expenses connected with original investigation in the Department of Anatomy.

From W. H. Walker, \$825, to be spent under the direction of Professor Harold C. Ernst for the Bacteriological Laboratory.

For salaries in the Department of Biological Chemistry, from

Arthur T. Cabot	\$1,000
Augustus Hemenway	1,000
	<u>\$2,000</u>

From an anonymous giver, \$100, for use in connection with the income of the Caroline Brewer Croft Fund.

From an anonymous giver, \$250, for the salary of a secretary for the Caroline Brewer Croft cancer committee.

From Charles S. Minot, \$50, toward the expenses of the Embryological Laboratory.

From Miss Katherine E. Bullard and William N. Bullard, \$500 each, their third gifts of the same amount, to be used under the direction of the Shattuck Professor of Pathological Anatomy, with the approval of the President and Fellows, for the purpose of advancing the knowledge of the pathology of the nervous system.

From James J. Putnam and Moorfield Storey, trustees, \$500, for a salary and expenses in the Department of Neuropathology.

From an anonymous giver, \$500, as a memorial to the late Henry W. Jackson, of Brookline, for special use in the Department of Pathology.

From G. K. Sabine, \$500, for special use in the Department of Pathology.

From Henry F. Sears, \$500, to be added to his previous gifts for the Library of the Pathological Department.

From Morrill Wyman, \$1,000, to aid research in the Department of Pathology.

From members of the Department of Physiology, \$50, for use in that department.

For the Surgical Laboratory, from

John S. Ames	\$1,000
George Baty Blake	100
	<u>\$1,100</u>

From Robert Winsor, \$5,000, for the payment of a salary in the Medical School.

For the purchase of land, the erection of buildings, or the endowment of education and research, for the benefit of the Dental School, from

Francis Bartlett	\$1,000
Miss Mary E. Emery and sisters	100
Mr. and Mrs. Robert C. Hooper	500
Frank E. Simpson	1,000
Charles A. Welsh	100
	<u>\$2,700</u>

For the Peabody Museum of American Archeology and Ethnology, from

A friend	\$100
A friend	100
Mrs. N. E. Baylies	25
Clarence B. Moore	500
	<u>\$725</u>

From an anonymous giver, \$377.17, to be added to the income of the Fund for the Advancement of Astronomical Science (1902).

From Mrs. Henry Draper, of New York, an additional sum of \$10,000, to be expended by the Director of the Observatory in prosecuting the researches in the photography of stellar spectra, with which the late Dr. Henry Draper's name is honorably associated.

From Miss Abby A. Bradley, \$600, to be added to the income of the William L. Bradley Fund.

From the Massachusetts Society for Promoting Agriculture, \$2,000, "to be expended at the Arnold Arboretum by the Director, to increase the knowledge of trees."

From Francis Skinner, \$5,000, for the purchase of books for the Arnold Arboretum.

For the purchase of about 40,000 square feet of land and the building thereon at the corner of Centre and Orchard Streets, in West Roxbury, and for construction expenses, for the Arnold Arboretum, from

Miss Mary S. Ames	\$5,000	Amount brought forward	\$18,850
Shepherd Brooks	400	James M. Prendergast	100
Samuel Carr	250	N. W. Rice	500
E. S. C.	200	Reginald C. Robbins	250
Mr. and Mrs. J. M. Codman	500	Mr. and Mrs. F. W. Sargent	500
Zenas Crane	500	Mrs. J. M. Sears	1,000
George G. Crocker	50	Mr. and Mrs. R. G. Shaw	500
A. F. Estabrook	1,000	W. S. Spaulding	1,000
R. D. Evans	1,000	Stone & Webster	1,000
G. F. Fabyan	500	C. H. Taylor	500
Miss Sarah B. Fay	500	E. V. R. Thayer	1,000
Eugene N. Foss	500	John E. Thayer	1,000
A. Hemenway	500	N. Thayer	1,000
H. S. Hunnewell	2,000	S. D. Warren	500
Walter Hunnewell	1,000	Mr. and Mrs. F. G. Webster	2,000
Gardiner M. Lane	250	L. J. Webster	500
Mr. and Mrs. Guy Lowell	100	S. M. Weld	2,000
Charles Merriam	500	Henry M. Whitney	1,000
F. S. Moseley	2,000	Robert Winsor	1,000
William E. Palmer	500	William M. Wood	500
Mr. and Mrs. Dudley L. Pickman	1,000		<u>\$34,700</u>
Wallace L. Pierce	100	Interest	146.11
David Pingree	500		<u>\$34,846.11</u>
Amount carried forward	\$18,850		

From the Committee on the Regulation of Athletic Sports, \$20,000, to be added to its previous gifts for improvements upon, and additions to, The Soldier's Field, to be made by said Committee, with the approval of the Corporation.

The total amount of these gifts for immediate use is \$875,295.59, as is also stated on page 42 of this report.

CHARLES F. ADAMS, 2d, *Treasurer.*

Boston, October 31, 1905.

*General Statement of Receipts and Disbursements
for the year ending*

INCOME.

Interest on notes, mortgages, advances, &c.,	112,213.54
Interest on Policies of Mass. Hospital Life Insurance Co.,	849.00

Interest on Bank Deposits.

Deposit in Adams Trust Co.,	\$959.47	
" City Trust Co.,	82.60	
" Equitable Trust Co.,	1,869.35	
" Merchants National Bank,	35.78	
" National Shawmut Bank,	145.21	
" National Union Bank,	363.39	
" Old Boston National Bank,	1,894.01	4,849.76

Interest on Public Funds (after deducting \$182.39
for sinking premiums).

Massachusetts 3½'s of 1913,	\$1,185.25	
" " " 1916,	154.15	
" " " 1935,	132.88	
" " " 1938,	99.43	
City of Boston 3½'s,	350.00	
United States of Mexico 4's,	2,000.00	3,921.21

Interest on Railroad Bonds (after deducting \$6,571.15
for sinking premiums).

Baltimore & Ohio 4's,	\$4,000.00
" " (P. L. E. & W. V. system) Ref. 4's,	4,000.00
" " So. Western 3½'s,	3,500.00
Bangor & Aroostook Ref. 4's,	5,000.00
Boston & Northern 4's,	4,150.00
Burlington & Mo. River in Neb. 6's,	13,535.99
Central Vermont 4's,	1,740.00
Chicago & Alton 4's,	4,000.00
Chicago, Burlington & Quincy 4's,	120.00
" " " Ill. Div. 4's,	7,977.78
" " " 3½'s,	15,243.80
Chicago & No. Western Gen. M. 3½'s,	3,488.23
" " Madison Extension 7's,	5,255.46
Chicago, Rock Island & Pacific 4's,	3,920.90
Chicago Terminal Transfer 4's,	2,000.00
Eastern 6's,	9,270.00
Eastern sterling 6's,	5,739.76
Fort Scott, So. E. & Memphis 7's,	875.00
Indiana, Illinois & Iowa 4's,	4,000.00
Kansas City, Fort Scott & Memphis 6's,	9,060.56
Kansas City, Memphis & Birmingham Income 5's,	5,700.00
Kansas & Missouri 5's,	2,700.00
Lake Shore & Michigan Southern 4's,	4,000.00
Long Island Unified 4's,	12,000.00

Amounts carried forward, \$131,277.48 \$121,833.51

*of the Treasurer of Harvard College,
July 31, 1905.*

EXPENSES.

Paid to account of expenses in the

University, as per Table I (page 72).

Salaries,	\$45,841.02	
Retiring Allowances,	22,990.11	
Peabody Museum of American Archaeology and Ethnology (part, see Table XIV, page 112),	1,263.44	
Semitic Museum (part, see Table XV, page 118),	1,590.84	
Germanic Museum (part, see Table XVI, p. 114),	865.48	
William Hayes Fogg Art Museum (part, see Table XVII, page 114),	2,816.99	
Appleton Chapel (part, see Table XIX, page 116),	6,425.20	
Phillips Brooks House (part, see Table XX, (page 117),	2,123.00	
Other expenses,	49,598.73	\$183,014.81

College, as per Table II (page 75).

Salaries for instruction,	\$408,887.99	
Sundry salaries,	13,979.60	
Expenses on College Public Buildings, which are not valued in the Treasurer's books and which are not separately entered in this table,	40,013.36	
Expenses on College Dormitories, which are not valued in the Treasurer's books,	48,639.79	
General expenses,	72,956.21	
Fellowships,	28,012.50	
Scholarships,	52,253.65	
Exhibitions,	30,327.79	
Prizes and expenses,	2,862.47	
Museum of Comparative Zoölogy (part, see Table XIII, page 111),	4,080.89	
Jefferson Physical Laboratory (part, see Table XVIII, page 115),	690.22	
Hemenway Gymnasium (part, see Table XXI, page 118),	7,369.59	
Summer Schools,	20,840.97	
Books, from special Funds and gifts,	2,125.79	
Apparatus and expenses for research, from special Funds and gifts,	2,357.64	
Publication expenses, from special Funds and gifts,	4,904.16	
Sundry payments from special Funds and gifts,	15,200.74	
Appropriations for collections and laboratories,	83,126.90	788,630.26

Library, as per Table III (page 96).

Salaries,	\$14,150.00	
Services and wages,	20,574.19	
Books,	22,397.46	
Other expenses,	10,595.41	67,717.06

Amount carried forward, \$989,362.13

*General Statement of Receipts and Disbursements
for the year ending*

INCOME (*continued*).

Amounts brought forward, . . . \$181,277.48 \$121,833.51

Interest on Railroad Bonds (*continued*).

Louisville & Jeffersonville Bridge 4's,	8,000.00	
Massachusetts Electric Co's. 4½'s,	4,012.50	
Metropolitan West Side Elevated 4's,	4,000.00	
" " " Extension 4's,	4,200.00	
Minneapolis Union 5's,	4,866.88	
Missouri Pacific 5's,	4,986.11	
New York Central & H. R. 3½'s (L. S. & M. S. Coll.),	10,500.00	
New York Central & H. R. 3½'s (M. C. Coll.),	1,190.00	
New York, New Haven & Hartford 4's,	11.11	
New York, Ontario & Western 4's,	7,884.18	
Northern Pacific—Great Northern Joint 4's,	18,140.00	
Old Colony Street 5's,	4,150.00	
Oregon Short Line 5's,	4,583.03	
Pennsylvania Co. 3½'s,	2,992.50	
Pennsylvania Co. 4½'s,	4,806.25	
Rutland Car Trust 4½'s,	4,230.00	
St. Louis & San Francisco Ref. 4's,	4,000.00	
St. Paul, Minneapolis & Manitoba 4's,	1,529.94	
Schenectady 4½'s,	4,371.79	
Second Avenue 5's,	4,605.26	
Terminal R. R. Association of St. Louis 4's,	8,000.00	
Third Avenue 4's,	7,975.81	
Union Pacific 4's,	18,000.00	268,312.24

Interest on Sundry Bonds (after deducting \$2,969.91
for sinking premiums).

American Bell Telephone Co. 4's,	\$10,162.71
American Tel. and Tel. Co. 4's,	8,000.00
American Tel. & Tel. Co. 5's,	8,319.45
Broadway Realty Co. 5's,	10,082.03
Brookline Gas Light Co. 5's,	188.89
Butte Water Co. 5's,	250.00
Chicago Edison Co. 5's,	4,709.60
Chicago Junc. Railways & Union Stock Yards Co. 5's,	14,979.85
Chicago Junc. Railways & Union Stock Yards Co. 4's,	4,000.00
City of Whitewright 6's,	15.00
Girard Point Storage Co. 3½'s,	691.52
Laclede Gas Light Co. 5's,	1,000.00
Metropolitan Tel. & Tel. Co. 5's,	7,500.00
Mexican Coal & Coke Co. 5's,	300.00
Minneapolis General Electric Co. 5's,	888.89
Montreal Light, Heat and Power Co. 4½'s,	4,466.66
Municipal Gas & Electric Co. 4½'s,	4,500.00

Amounts carried forward, . . . \$80,004.60 \$390,145.75

*of the Treasurer of Harvard College,
July 31, 1905.*

EXPENSES (*continued*).

Amount brought forward,		\$989,862.18
Divinity School, as per Table IV (page 96).		
Salaries for instruction,	\$30,176.72	
Scholarships, Exhibitions, and Prizes,	2,225.09	
Other expenses,	11,424.06	48,825.87
Law School, as per Table V (page 98).		
Salaries for instruction,	\$53,983.33	
Librarians and assistants,	10,791.15	
Scholarships and loans,	9,485.00	
Other expenses,	28,527.55	102,787.08
Medical School, as per Table VI (page 100).		
Salaries for instruction,	\$91,508.32	
Fees repaid to instructors,	7,149.00	
Retiring allowance,	1,000.00	
Fellowships,	2,585.00	
Scholarships and Exhibitions,	4,478.47	
Prize and expenses,	162.50	
Warren Anatomical Museum,	628.06	
Books, from special Funds and gifts,	1,554.40	
Sundry payments made from special Funds and gifts,	6,552.41	
Laboratory appropriations,	9,774.35	
Other expenses,	29,842.65	155,235.16
Medical School Undertaking, as per Table VI (page 104).		
Building expenses,	\$1,264,062.85	
Interest on advances,	18,664.33	
Other expenses,	4,674.53	1,287,401.71
Dental School, as per Table VII (page 105).		
Salaries for instruction,	\$10,795.00	
Real estate,	35,901.80	
Other expenses,	15,006.36	61,702.56
Bussey Institution, as per Table VIII (page 106).		
Salaries for instruction,	\$8,000.00	
Other expenses,	9,318.58	17,318.58
Arnold Arboretum, as per Table IX (page 107).		
Salaries,	\$3,500.00	
Real estate,	20,281.85	
Other expenses,	23,598.39	47,379.74
Botanic Garden and Botanic Museum, as per Table X (page 108).		
Services and wages,	\$797.02	
Labor,	5,070.80	
Other expenses,	4,229.01	10,096.83
Amount carried forward,		\$2,715,109.61

General Statement of Receipts and Disbursements
for the year ending

INCOME (continued).

Amounts brought forward, . . .		\$80,004.60	\$390,145.75
Interest on Sundry Bonds (continued).			
New England Tel. & Tel. Co. 6's,	7,128.90		
" " " 5's,	4,058.82		
Public Service Corporation of New Jersey 5's, . .	2,208.33		
St. Louis National Stock Yards Co. 4's,	4,400.00		
United States Steel Corporation 5's,	1,600.00		99,400.65
<hr/>			
Dividends on Railroad Stocks.			
Boston & Albany,	\$35.00		
Boston & Lowell,	3,100.00		
Boston & Maine,	2,339.25		
Boston & Providence,	75.00		
Chicago & Northwestern,	3,500.00		
Fitchburg, preferred,	1,308.75		
Great Northern, preferred,	225.75		
Manhattan,	5,075.00		
New York Central & Hudson River,	6,240.00		
New York, New Haven & Hartford,	3,886.00		
Northern (N. H.),	1,740.00		
Old Colony,	2,535.75		
Pennsylvania,	16,434.00		
Père Marquette, preferred,	74.00		
Père Marquette, common,	175.00		
West End Street, preferred,	208.00		46,781.50
<hr/>			
Dividends on Manufacturing and Telephone Stocks.			
American Telephone & Telegraph Co.,	\$12,750.00		
Amoskeag Manufacturing Co.,	4,200.00		
Brookside Mills,	175.00		
Pacific Mills,	3,800.00		
United States Steel Corporation, preferred, . . .	780.00		
Western Telephone & Telegraph Co.,	33.75		21,738.75
<hr/>			
Dividends on Real Estate Trust Stocks.			
Barristers Hall Trust,	\$3,037.50		
Boston Real Estate Trust,	900.00		
Department Store Trust,	10,000.00		
Essex Street Trust,	3,000.00		
Kimball Building Trust,	1,725.00		
Municipal Real Estate Trust,	24.00		
Paddock Building Trust,	4,161.50		
Post Office Square Building Trust,	4,333.33		27,181.33
<hr/>			
Dividends on Sundry Stocks.			
Boatmen's Bank of St. Louis,	\$3,150.00		
Calumet & Hecla Mining Co.,	675.00		
Laclede Gas Light Co., preferred,	1,000.00		
Amounts carried forward,		\$4,825.00	\$585,247.98

*of the Treasurer of Harvard College,
July 31, 1905.*

EXPENSES (*continued*).

Amount brought forward,		\$2,715,109.61	
Gray Herbarium, as per Table XI (page 108).			
Salaries,	\$5,700.00		
Services and wages,	1,868.66		
Other expenses,	8,071.02	10,634.68	
Observatory, as per Table XII (page 109).			
Salaries,	\$16,600.00		
Services and wages,	7,289.61		
Other expenses,	41,728.95	65,618.56	
Museum of Comparative Zoölogy, as per Table XIII (page 111).			
Salaries,	\$8,600.00		
Services and wages,	8,765.00		
Sturgis Hooper Fund, salary and expenses, . .	5,047.00		
Scholarship,	250.00		
Other expenses,	19,128.85		
	\$36,790.85		
Less amount paid from College income (see Table II, page 75),	4,080.89	82,709.46	
Peabody Museum of American Archae- ology and Ethnology, as per Table XIV (page 112).			
Peabody Professor Fund, Peabody Professor and Curator,			
	\$2,379.97		
Services and wages,	2,612.26		
Fellowships and scholarships,	1,778.12		
Other expenses,	4,894.78		
	\$11,665.18		
Less amount paid from University income (see Table I, page 72),	1,268.44	10,401.69	
Semitic Museum, as per Table XV (page 118).			
Curator,	\$500.00		
Collections,	698.19		
Other expenses,	1,090.84		
	\$2,289.03		
Less amount paid from University income (see Table I, page 72),	1,590.84	698.19	
Germanic Museum, as per Table XVI (page 114).			
General expenses,	\$1,015.48		
Less amount paid from University income (see Table I, page 72),	865.48	150.00	
Amount carried forward,		\$2,835,817.19	

*General Statement of Receipts and Disbursements
for the year ending*

INCOME (continued).

Amounts brought forward,	\$4,825.00	\$585,247.98	
Dividends on Sundry Stock (continued).			
Missouri Zinc Fields Co.,	20.00		
National Union Bank,	85.00		
Old Boston National Bank,	124.00		
Second National Bank,	28.00		5,082.00
Real Estate Investments, from rents, &c., net receipts.			
Cambridge (University Houses and Lands).			
Gross receipts,	\$42,764.56		
Less Taxes,	\$5,613.44		
Insurance,	1,466.89		
Repairs, improvements, care, &c.,	16,270.19	28,350.52	\$19,414.04
Boston (general investments).			
Gross receipts,	\$303,327.67		
Less Taxes,	\$42,715.23		
Insurance,	2,481.88		
Repairs, improvements, care, &c.,	4,678.75		
Repaid to capital,	6,256.97	56,132.88	147,194.84
Bussey real estate.			
Gross receipts,	\$38,582.67		
Less Taxes,	\$10,874.08		
Insurance,	129.80		
Interest,	1,737.07		
Repairs, improvements, care, &c.,	3,846.88		
Heat and power,	3,843.21		
Repaid to capital,	5,641.80	26,072.84	12,510.38
Sundry estates (special investments).			
Gross receipts,	\$11,750.97		
Less Taxes,	\$1,578.64		
Insurance,	750.45		
Interest,	338.61		
Repairs, improvements, care, &c.,	3,073.67	5,741.37	6,009.60
Receipts from Students.			
Tuition fees, regular courses.			
College,	\$413,588.38		
Divinity School,	6,282.23		
Law School,	110,900.08		
Medical School,	54,972.50		
Dental School,	12,644.50		
Bussey Institution,	2,355.50		
School for Social Workers,	240.00	\$600,983.09	
Amounts carried forward,	\$600,983.09	\$775,408.79	

*of the Treasurer of Harvard College,
July 31, 1905.*

EXPENSES (*continued*).

Amount brought forward,		\$2,835,317.19	
William Hayes Fogg Art Museum, as per Table XVII (page 114).			
Salaries,	\$1,000.00		
Collections,	562.78		
Other expenses,	5,511.81		
	<u>\$7,074.59</u>		
Less amount paid from University income (see Table I, page 72),	2,816.99		4,257.60
Jefferson Physical Laboratory, as per Table XVIII (page 115).			
Research expenses, from Funds and gift,	\$1,480.15		
Other expenses,	4,127.68		
	<u>\$5,557.83</u>		
Less amount paid from College income (see Table II, page 75),	690.22		4,867.61
Appleton Chapel, as per Table XIX (page 116).			
Salaries,	\$5,458.50		
Choir,	1,600.00		
Other expenses,	1,877.57		
	<u>\$8,936.07</u>		
Less amount paid from University income (see Table I, page 72),	6,425.20		2,510.87
Phillips Brooks House, as per Table XX (page 117).			
Salaries,	\$1,250.00		
Other expenses,	2,762.90		
	<u>\$4,012.90</u>		
Less amount paid from University income (see Table I, page 72),	2,123.00		1,889.90
Hemenway Gymnasium, as per Table XXI (page 118).			
Salaries,	\$4,700.00		
Other expenses,	7,926.02		
	<u>\$12,626.02</u>		
Less the following items: —			
Paid from College income (see Table II, page 75),	\$7,369.59		
Paid from Divinity School income (see Table IV, page 96),	108.12		
Paid from Law School income (see Table V, page 98),	1,905.88	9,388.59	3,242.43
Amount carried forward,			\$2,852,085.60

*General Statement of Receipts and Disbursements
for the year ending*

INCOME (continued).

Amounts brought forward, . . .		\$600,988.09	\$775,408.79
Receipts from Students (continued).			
Tuition fees, Summer courses.			
College,	\$21,938.75		
Divinity School,	915.00		
Medical School,	4,571.50	27,425.25	
Laboratory fees.			
College,	\$85,951.80		
Medical School,	2,029.67		
Dental School,	4,217.01	42,198.48	
Examination fees.			
College. Admission,	\$4,270.00		
Condition,	528.00		
Doctor of Philosophy,	80.00		
Medical School,	285.00		
Dental School,	451.00	5,564.00	
Graduation fees.			
College,	\$8,940.00		
Medical School,	2,460.00	11,400.00	
Matriculation fees, Medical School,		330.00	
Rooms in dormitories.			
College buildings,	\$97,833.51		
Less receipts from students, separately entered in Uni- versity Houses and Lands account,	19,830.84		
	\$78,502.67		
Divinity Hall,	2,940.00	81,442.67	
Library fines.			
Library,	\$335.88		
Divinity School,	7.60		
Dental School, . . . . .	.09	343.57	
Stillman Infirmary.			
Annual fees,	\$14,860.00		
Receipts from patients,	5,752.32	20,612.32	
Use of Microscopes.			
Medical School,	\$724.75		
Dental School,	70.00	794.75	
Use of lockers, Hemenway Gymnasium,		3,156.00	
Summer School excursions, surplus,		49.48	794,299.61
Amount carried forward,			\$1,569,708.40

*of the Treasurer of Harvard College,
July 31, 1905.*

EXPENSES (*continued*).

Amount brought forward,	\$2,852,085.60	
Stillman Infirmary, as per Table XXII (page 118).		
Services and wages,	\$5,488.11	
Food and supplies,	5,679.78	
Other expenses,	7,181.50	18,299.39
Annuities from the following Funds.		
Advancement of Astronomical Science (1901), . .	\$2,885.00	
" " " " (1902), . .	586.95	
Bussey Trust,	4,000.00	
Caroline Brewer Croft,	2,194.80	
Gurney,	1,000.00	
Henry S. Nourse,	1,000.00	
Professorship of Hygiene,	3,919.76	
George Smith,	900.00	
Alexander W. Thayer,	480.00	
Charles Wilder,	1,908.00	18,374.51
Class Funds.		
Paid the Secretary of the Class of 1853, . . .	\$149.00	
Paid the Secretary of the Class of 1856, . . .	178.87	327.87
Sundry payments.		
Calvin and Lucy Ellis Fund, taxes,	\$111.89	
George H. Emerson Scholarship Fund.		
Legal expenses,	\$17.69	
Repayment to trustee,	325.00	342.69
Charles L. Hancock Fund, taxes on Chelsea		
real estate,	39.06	
Munroe Fund, legal expenses,	10.00	
Insurance and Guaranty Fund.		
Sewer assessment and insurance on estate in		
Lucas St., Boston,	300.86	
Henry S. Nourse Fund, legal expenses and		
insurance,	22.19	
George Smith Bequest, express charges, rent		
of safe, etc.,	106.54	
Stoughton Scholarship Fund, legal expenses, .	15.00	
David Ames Wells Fund, legal expenses, . .	111.00	
Daniel Williams Fund, for the benefit of the		
Masphee and Herring Pond Indians,	788.89	
Sarah Winslow Fund, to the Minister and		
the Teacher at Tyngsborough, Mass.,	227.98	
Woodland Hill Fund, taxes on Muddy River land,		
street assessment and legal expenses,	1,768.68	
Gifts for Cuban Teachers, expenses,	25.00	
Amounts carried forward,	\$3,869.23	\$2,889,087.37

*General Statement of Receipts and Disbursements
for the year ending*

INCOME (continued).

Amount brought forward,	\$1,569,708.40	
Sundries.		
Professorship of Hygiene, from Trustees,	\$932.90	
Asa Gray's copyrights,	784.80	
Trustee of George H. Emerson estate,	838.80	
Trustee of C. L. Hancock real estate,	1,294.57	
Trustees of Edward Hopkins ,	207.25	
Sale of grass, wood, old material, &c.,	4,964.40	
“ old examination papers,	359.02	
“ tickets to Commencement Lunch,	623.50	
“ tickets to Divinity School Alumni Dinner, .	43.00	
“ books, pamphlets, catalogues, &c.,	7,539.85	
Board of horses, cattle, &c., at Bussey Institution,	5,196.84	
Use of Library by resident graduates and others, .	85.00	
“ Gymnasium by graduates and others, . . .	86.43	
“ Buildings (not Univ. Houses and Lands), .	6,144.67	
Fees in Infirmary, Dental School,	6,189.09	
Mary L. Whitney Scholarship, from the Executor of the will of C. L. B. Whitney ,	65.89	
Engineering camp at Squam Lake,	15,273.46	
Fire insurance awards,	5,542.48	56,166.95
Sundry Gifts for immediate use (see page 31),		875,295.59
Total amount of income,		\$2,501,170.94

RECEIPTS EXCLUSIVE OF INCOME.

GIFTS FOR CAPITAL ACCOUNT.

James Barr Ames Loan Fund,	\$500.00
Anonymous Aid Fund,	5,000.00
Arnold Arboretum Fund (additional),	835.00
Philo Sherman Bennett Prize Fund,	400.00
Daniel A. Buckley Fund,	55,886.52
Walter Channing Cabot Fund,	50,000.00
Francis James Child Memorial Fund (additional), .	50.00
Class of 1880 Fund,	100,000.00
Class Subscription Fund (additional),	172.50
Edward W. Codman Fund,	321,361.90
Calvin and Lucy Ellis Aid Fund (additional), . . .	2,399.37
George H. Emerson Scholarship Fund,	5,862.76
Richard W. Foster Fund,	12,500.00
Fund for the Advancement of Astronomical Science (1902) (additional),	1,000.00
Fund of the Class of 1846 ,	10,571.07
Lloyd McKim Garrison Prize Fund,	2,700.00
F. B. Greenough Fund for Surgical Research (additional),	500.00

Amounts carried forward, \$569,739.12 \$2,501,170.94

*of the Treasurer of Harvard College,
July 31, 1905.*

EXPENSES (continued).

Amounts brought forward,	\$3,869.23	\$2,889,087.87
Sundry payments (continued).		
Gifts for the purchase of land in New Hampshire, addition to the estate at Squam Lake,	1,480.00	5,849.28
Construction Funds.		
Emerson Hall,	\$111,144.88	
Semitic Building,	682.06	
John Simpkins Hall,	956.10	
Stadium, and improvements at The Soldier's Field,	17,953.35	
Stillman Infirmary,	69,880.08	
University Museum,	1,460.12	201,576.04
Total amount of expenses,		\$3,096,012.64

INVESTMENTS AND SUNDRY PAYMENTS.

GENERAL INVESTMENTS.

\$100,000 Boston Electric Light Co. 1st Cons. M. 5's of 1924,	\$113,250.00	
50,000 Boston & Northern Street R'y 1st M. Ref. 4's of 1954,	45,000.00	
£3,500 Imperial Japanese Government Sterling Loan 4½'s of 1925,	15,384.55	
\$300,000 Interborough Rapid Transit Co. 4% Gold Notes of 1908,	195,900.00	
100,000 Minneapolis General Electric Co. Gen. M. 5's of 1934,	102,500.00	
91,000 Montana Central R'y 1st M. 6's of 1937,	124,215.00	
100,000 New York, New Haven & Hartford R.R. Deb. 4's of 1955,	106,250.00	
50,000 Old Colony Street R'y 1st M. Ref. 4's of 1954,	45,000.00	
100,000 Portland General Electric Co. 1st M. 5's of 1935,	102,250.00	
100,000 Public Service Corporation of New Jersey 5% Coll. Notes of 1909,	97,000.00	
£40,000 St. Paul, Minneapolis & Manitoba (Pacific Extension) R'y 4's of 1940,	201,696.97	
\$100,000 United States of Mexico 4's of 1954,	93,250.00	
2,000 shares American Smelters Securities Co. 5% Cumulative, preferred. Series B,	196,000.00	
75 shares Chicago & Northwestern R.R., common,	7,500.00	
129 " Great Northern R'y, preferred,	23,261.93	
Improvements on Townsend Estate,	139.62	
Advances to Bussey Real Estate,	184,811.30	
" Calvin and Lucy Ellis Real Estate,	161.58	
Amounts carried forward,	\$1,653,520.95	\$3,096,012.64

*General Statement of Receipts and Disbursements
for the year ending*

RECEIPTS EXCLUSIVE OF INCOME (continued).

Amounts brought forward, . . . \$569,739.12 \$2,501,170.94

GIFTS FOR CAPITAL ACCOUNT (continued).

Edwin A. W. Harlow Fund,	1,607.57	
Edward William Hooper Fellowship Fund, . . .	25,000.00	
Charles Eliot Norton Book Fund,	8,500.00	
Francis Greenwood Peabody Endowment, . .	100,000.00	
The Philadelphia Scholarship (additional),	550.00	
Shattuck Professorship of Pathological Anatomy Fund (additional),	1,000.00	
William M. Spackman Fund,	2,500.00	
Teachers' Endowment Fund,	736,225.28	
Jerome Wheelock Fund (additional),	10.00	
Charles Wyman Scholarship Fund,	10,000.00	1,455,181.97

SALES, ETC., GENERAL INVESTMENTS.

\$100,000 American Tel. & Tel. Co. 5% Gold Coupon Notes of 1907,	\$101,487.50	
34,200 Burl. & Mo. River (Neb.) R. R. non. ex. 6's, called and paid off at par,	34,200.00	
100,000 Chicago & North Western (Madison Extension) R. R. 1st M. 7's of 1911,	117,150.00	
25,000 Fort Scott, South Eastern & Memphis R. R. 1st M. 7's, called and paid off at 105, . . .	26,250.00	
100,000 Massachusetts Electric Companies 4½% Gold Coupon Notes of 1906,	98,000.00	
9,000 Pennsylvania Company 3½'s of 1916, called and paid off at par,	9,000.00	
50,000 Pennsylvania Company Coll. Trust 4½% Notes of 1905,	50,245.00	
582 shares New York, New Haven & Hartford R.R.,	111,737.24	
1,000 " Pennsylvania R. R.,	67,437.50	
Notes paid,	1,184,000.00	1,799,457.24

SALES, ETC., SPECIAL INVESTMENTS.

Sales, etc., of investments of the Edward W. Cod-
man Fund.

\$13,000 American Tel. & Tel. Co. Coll. Trust 4's of 1929,	\$12,730.25	
2,500 Atchison, Topeka & Santa Fé R'y Adjustment 4's of 1995,	2,411.87	
4,000 Atchison, Topeka & Santa Fé R'y Gen. M. 4's of 1995,	4,095.00	

Amounts carried forward, \$19,237.12 \$5,755,760.15

*of the Treasurer of Harvard College,
July 31, 1905.*

INVESTMENTS AND SUNDRY PAYMENTS (*continued*).

Amounts brought forward, . . . \$1,653,520.95 \$3,096,012.64

GENERAL INVESTMENTS (*continued*).

Advances to Dental School Real Estate,	34.52	
" Harvard Dining Association,	32,959.63	
" Sundry accounts,	1,244.53	
Invested in notes,	1,200,000.00	
Accrued interest and expenses on bonds bought, . . .	9,374.67	2,897,184.30

SPECIAL INVESTMENTS OF VARIOUS FUNDS.

Daniel A. Buckley Fund.

Mortgages on Cambridge real estate, paid, . . . \$10,500.00

Edward W. Codman Fund.

1 share Boston Real Estate Trust, 1,125.00

Robert Troup Paine Fund.

\$1,000 Massachusetts 8½'s of 1938, 1,055.00

Price Greenleaf Fund.

5 Rights Boston Real Estate Trust, 25.00

2 shares " " " " 2,250.00

Note of Massachusetts Cotton Mills, 50,000.00

University houses and lands.

Estate No. 10 Oxford St., Cambridge, 10,061.15

Estate No. 21 Kirkland St., Cambridge, 40,128.85

Woodland Hill Fund.

Building for the Laboratory of Comparative Pathology,	5,922.02	121,067.02
---	----------	------------

Property received on account of the Daniel A. Buckley Fund.

Real estate in Cambridge, Mass., \$47,200.00

Real estate in Deer Isle, Maine,	1.00	47,201.00
--	------	-----------

Property received on account of the Edward W. Codman Fund.

\$13,000 American Telephone & Telegraph Co. Collateral Trust 4's of 1929, \$12,730.25

2,500 Atchison, Topeka & Santa Fé R'y Adjustment 4's of 1995, 2,411.87

4,000 Atchison, Topeka & Santa Fé R'y Gen. M. 4's of 1995, 4,095.00

3,000 Burlington & Missouri River (Nebraska) R.R. exempt 6's of 1918, 3,477.75

5,000 Chicago, Milwaukee & St. Paul (Dubuque Division) R'y 1st M., S. F., 6's of 1920, . . 6,421.25

5,000 Kansas City, Fort Scott & Memphis R.R. Cons. M. 6's of 1928,	6,250.00	
--	----------	--

Amounts carried forward, . . . \$35,886.12 \$6,161,414.96

*General Statement of Receipts and Disbursements
for the year ending*

RECEIPTS EXCLUSIVE OF INCOME (continued).

Amounts brought forward, . . . \$19,287.12 \$5,755,760.15

SALES, ETC., SPECIAL INVESTMENTS (continued).

Sales, etc., of investments of the Edward W. Codman Fund (continued).

\$3,000 Burl. & Mo. River (Neb.) R. R. Exempt 6's of 1918,	3,477.75	
5,000 Chicago, Milwaukee & St. Paul (Dubuque Div.) R'y 1st M., S. F., 6's of 1920,	6,421.25	
3,000 Kansas City, Memphis & Birmingham R. R. Gen. M. 4's of 1934,	2,962.75	
20 shares Atchison, Topeka & Santa Fé R'y, preferred,	2,057.50	
90 shares Boston & Albany R. R.,	23,388.74	
45 " Boston & Lowell R. R.,	11,154.87	
37 " Boston & Maine R. R., common,	6,655.87	
31 " Fitchburg R. R., preferred,	4,553.12	
100 " Massachusetts Electric Companies, pref.,	6,787.50	
25 " New York, New Haven & Hartford R. R.,	5,121.87	
46 " Old Colony R. R.,	9,746.24	
50 " Père Marquette R. R., common,	4,893.75	
8 " Second National Bank,	1,730.00	
15 " State National Bank,	2,261.25	
10 " National Union Bank,	1,790.00	
20 " Lancaster Mills,	795.00	
50 " Lyman Mills,	3,487.50	
50 " Massachusetts Cotton Mills,	3,925.00	
60 " Massachusetts Mills in Georgia,	6,000.00	
145 " Pepperell Manufacturing Co.,	37,283.12	
50 " Board of Trade Building Trust,	5,379.37	
50 " South Terminal Trust,	3,450.00	
25 " State Street Exchange,	2,819.30	

Undivided half of Estate No. 53 Marlborough

St., Boston,	\$38,400.00		
Less commissions and expenses,	531.65	37,868.35	218,246.22

Sales of Investments of the Henry S. Nourse Fund.

32 shares American Sugar Refining Co.,	\$4,188.00	
30 " Lanett Cotton Mills,	2,542.50	
80 " The National Lead & Improvement Co. of Colorado,	715.00	
21 " Pennsylvania Steel Co., preferred,	1,622.25	
15 " Western Tel. & Tel. Co., preferred,	1,865.00	
45 " Western Tel. & Tel. Co., common,	601.25	
Mortgage Notes paid,	6,600.00	17,634.00

Amount carried forward, \$5,986,640.37

of the Treasurer of Harvard College,
July 31, 1905.

INVESTMENTS AND SUNDRY PAYMENTS (*continued*).

Amounts brought forward, \$35,886.12 \$6,161,414.96

SPECIAL INVESTMENTS (*continued*).

Property received on account of the Edward W.

Codman Fund (*continued*).

\$3,000	Kansas City, Memphis & Birmingham Gen.		
	M. 4's of 1934,	2,962.75	
10,000	Northern Pacific—Great Northern R'y Joint 4's		
	(C. B. & Q. Coll.) of 1921,	9,800.00	
20	shares Atchison, Topeka & Santa Fé R'y, pre-		
	ferred,	2,057.50	
100	shares Boston & Albany R. R.,	25,908.74	
100	" Boston & Lowell R. R.,	24,354.37	
100	" Boston & Maine R. R., common, . . .	17,865.37	
50	" Fitchburg R. R., preferred,	7,343.74	
100	" Massachusetts Electric Companies, pre-		
	ferred,	6,787.50	
25	" New York, New Haven & Hartford R. R.,	5,121.87	
75	" Old Colony R. R.,	15,691.24	
37	" Père Marquette R. R., preferred, . . .	2,923.00	
50	" Père Marquette R. R., common, . . .	4,893.75	
62	" Old Boston National Bank,	6,618.50	
8	" Second National Bank,	1,730.00	
15	" State National Bank,	2,261.25	
10	" National Union Bank,	1,790.00	
20	" Lancaster Mills,	795.00	
50	" Lyman Mills,	3,487.50	
50	" Massachusetts Cotton Mills,	3,925.00	
60	" Massachusetts Mills in Georgia, . . .	6,000.00	
2	" Pacific Mills,	4,600.00	
145	" Pepperell Manufacturing Co.,	37,283.12	
25	" Barristers Hall Trust,	1,875.00	
50	" Board of Trade Building Trust, . . .	5,379.37	
10	" Boston Real Estate Trust,	12,100.00	
25	" Central Building Trust,	2,375.00	
25	" Hotel Trust,	2,800.00	
12	" Municipal Real Estate Trust,	1,200.00	
50	" South Terminal Trust,	3,450.00	
25	" State Street Exchange,	2,819.30	
	Undivided half of estate No. 53 Marlborough St.,		
	Boston, Mass.,	87,868.35	
	Undivided half of estate in Nahant, Mass., . . .	10,733.72	309,687.06
	Amount carried forward,	\$6,471,102.02	

*General Statement of Receipts and Disbursements
for the year ending*

RECEIPTS, EXCLUSIVE OF INCOME *(continued)*.

Amount brought forward, \$5,986,640.87

SALES, ETC., SPECIAL INVESTMENTS *(continued)*.

Sales of Investments of the George Smith Bequest.

\$18,000 Citizens Street R'y Co., Shelby County, Tennessee, Gold 6's of 1916,	\$14,869.88	
4,000 City of Commerce, Texas, Permanent Improvement 6's of 1921,	4,021.88	
17,000 City of Ennis, Texas, Bridge and Street Improvement 6's of 1935,	17,090.67	
8,000 Grand River Township, Cass County, Missouri, Funding 5's of 1917,	8,075.88	
11,000 Jones County, Texas, Ref. Court House 5's of 1937,	10,622.68	
4,000 Lampasas Co., Texas, Bridge 5's of 1910, . .	4,062.78	
500 City of Whitewright, Texas, Permanent Improvement 6's of 1914,	500.17	
200 shares Boatmen's Bank of St. Louis,	49,900.00	
480 " United States Steel Corporation, preferred,	29,280.00	182,922.74

Sales of Investments of the George H. Emerson Scholarship Fund.

\$1,000 American Bell Telephone Co. 4's of 1908, . .	\$1,012.89	
300 Burlington, Cedar Rapids & Northern R'y 1st M. 5's of 1906,	305.70	
600 Burlington & Missouri River (Neb.) R. R. Exempt 6's of 1918,	689.80	
2,400 Republican Valley R. R. 6's of 1919,	2,503.60	4,511.99

SALES, ETC., OF SPECIAL INVESTMENTS OF VARIOUS FUNDS.

Price Greenleaf Fund.

\$50,000 Note of Massachusetts Cotton Mills, paid, . \$50,000.00

Arthur T. Lyman Fund.

\$25,000 Note of Boston Manufacturing Co., paid, . 25,000.00

Scholarship of the Class of 1883 Fund.

\$5,000 Brookline Gas Light Co. Gen. M. 5's of 1913, 5,307.50

David Ames Wells Fund.

Undivided one-sixth share of Estate Nos. 100-102

Pineapple St., Brooklyn, N. Y., 5,390.92

James Barr Ames Prize Fund.

Personal note, paid in part, 250.00

Charles L. Hancock Bequest.

Lots Nos. 38 and 40 West Third St., Chelsea,

Mass., and Lots Nos. 37 and 39 Elm

St., Chelsea, Mass. \$1,200.00

Less commissions and expenses, 65.50 1,134.50 87,082.92

Amount carried forward, \$6,211,158.02

*of the Treasurer of Harvard College,
July 31, 1905.*

INVESTMENTS AND SUNDRY PAYMENTS (continued).

Amount brought forward,	\$6,471,102.02	
SPECIAL INVESTMENTS (continued).		
Property received on account of the George H.		
Emerson Scholarship Fund.		
\$1,000 American Bell Telephone Co. 4's of 1908, .	\$1,012.89	
800 Burlington, Cedar Rapids & Northern R'y 1st		
M. 5's of 1906,	305.70	
600 Burlington & Missouri River (Nebraska) R.R.		
exempt 6's of 1918,	689.80	
2,400 Republican Valley R. R. 6's of 1919,	<u>2,508.60</u>	4,511.99
Property received on account of the Teachers' Endow-		
ment Fund.		
\$5,000 Broadway Realty Co., Purchase money 2nd		
M. 5's of 1916,		5,000.00

Amount carried forward, \$6,480,614.01

*General Statement of Receipts and Disbursements
for the year ending*

RECEIPTS, EXCLUSIVE OF INCOME (continued).

Amount brought forward, \$6,211,158.02

SUNDRIES.

Harvard Dining Association, to reduce debt,	\$2,800.00	
Randall Hall Association, to reduce debt,	1,000.00	
Premiums on Bonds, repaid in part,	9,728.45	
Advances for accrued interest and expenses on bonds repaid,	6,241.90	
Improvements on Adams Estate, repaid in part, . . .	3,888.00	
" " Gray Estate, repaid in part,	2,918.97	
" " Bussey Real Estate, repaid in part, . . .	5,641.30	
Loans to Students, repaid,	4,098.69	
Sundry repayments,	746.67	
Reserved for the payment of certain bills for 1904-05, which were charged off, but not paid, during the year,	3,149.20	
Sale of part of the land, which was bought in connection with the Medical School Undertaking,	184,888.44	178,541.62

Bursar's Sundry Accounts.

Receipts during the year.

On account of Harvard Dining Association, . .	\$208,195.82	
" Randall Hall Association, . .	83,400.88	
On Sundry accounts,	170,897.08	461,993.28

Balance, August 1, 1904.

Cash in Adams Trust Co.,	\$10,478.31	
" City Trust Co.,	4,892.91	
" Equitable Trust Co.,	105,938.41	
" Old Boston National Bank,	4,253.87	
" National Union Bank,	15,413.69	
Term Bills due in October, 1904,	249,422.71	
" overdue,	8,870.39	
Cash in hands of Charles F. Mason, Bursar, . . .	29,455.96	428,226.25
Total,		\$7,274,919.17

*of the Treasurer of Harvard College,
July 31, 1905.*

INVESTMENTS AND SUNDRY PAYMENTS (*continued*).

Amount brought forward, \$6,480,614.01

Bursar's Sundry Accounts.

Payments during the year.

On account of Harvard Dining Association , . .	\$203,186.75	
" Randall Hall Association , . .	84,986.88	
On sundry accounts,	169,865.72	457,488.85

Balance, July 31, 1905.

Cash in Adams Trust Co. ,	\$51,692.62	
" City Trust Co. ,	2,782.22	
" Equitable Trust Co.	48,787.87	
" Merchants National Bank ,	7,987.54	
" National Shawmut Bank ,	25,145.21	
" National Union Bank ,	61,719.58	
" Old Boston National Bank ,	42,858.81	
Term Bills overdue,	57,675.59	
Cash in hands of Charles F. Mason, Bursar , . . .	38,217.37	886,816.81
Total ,		\$7,274,919.17

The following Account exhibits the State of the Property, as entered upon the Treasurer's Books, July 31, 1905.

Separate Investments, as stated in detail on pages 3, 4, 5, 6, and 7 of this report, consisting of

Railroad Bonds,	\$338,949.28	
Sundry Bonds,	407,810.48	
Railroad Stocks,	365,124.21	
Real Estate Trust Stocks,	54,458.75	
Sundry Stocks,	69,166.50	
University Houses and Lands,	569,527.04	
Bussey Real Estate,	892,710.18	
Other Real Estate,	207,378.42	
Mortgages and Notes,	146,300.00	
Deposits in Massachusetts Hospital Life Ins. Co.,	21,225.00	
Cash in City Trust Co.,	2,782.22	\$2,564,927.08

And "General Investments," as follows:—

Mortgages and Notes.

Mortgages,	\$650,000.00	
Boston Manufacturing Co.'s Note,	50,000.00	
Edison Electric Illuminating Co.'s Notes,	200,000.00	
Hamilton Manufacturing Co.'s Note,	50,000.00	
Manchester Cotton Mills' Note,	50,000.00	
Merrimack Manufacturing Co.'s Notes,	100,000.00	
Terminal R. R. Association of St. Louis, Note,	50,000.00	
Personal Notes, with collateral,	200,000.00	1,850,000.00

Public Funds.

£3,500 Imperial Japanese Government Sterling

Loan 4½'s of 1925, \$15,884.55

\$100,000 United States of Mexico 4's of 1954, 98,250.00 108,584.55

Railroad Bonds.

\$100,000 Baltimore & Ohio 1st M. 4's of 1948,	\$96,625.00	
100,000 Baltimore & Ohio (S. W. Division) 1st M. 3½'s of 1925,	89,750.00	
100,000 Baltimore & Ohio (Pittsburg, Lake Erie & West Virginia System) Ref. M. 4's of 1941,	99,250.00	
125,000 Bangor & Aroostook Cons. Ref. M. 4's of 1951,	118,750.00	
150,000 Boston & Northern Street R'y 1st M. Ref. 4's of 1954,	139,000.00	
200,400 Burl. & Mo. R. in Nebr. non ex. 6's,	200,400.00	
100,000 Chicago & Alton 4% Coll. Notes of 1907,	98,350.00	
444,000 Chicago, Burl. & Quincy 3½'s of 1949,	457,082.49	
200,000 Chicago, Burl. & Quincy (Illinois Division) 4's of 1949,	200,977.78	
100,000 Chicago & No. Western Gen. M. 3½'s of 1987,	100,970.80	

Amounts carried forward, . . . \$1,601,106.07 \$4,028,511.58

Amounts brought forward, . .		\$1,601,106.07	\$4,028,511.58
Railroad Bonds (<i>continued</i>).			
\$100,000 Chicago, Rock Island & Pacific Gen. M.			
4's of 1988,	106,525.68		
100,000 Chicago Terminal Transfer 1st M. 4's			
of 1947,	95,772.50		
154,500 Eastern, 1st M. 6's of 1906,	154,314.58		
£19,600 " " " Sterling of 1906,	95,388.40		
100,000 Indiana, Ill. & Iowa 1st M. 4's of 1950,	96,500.00		
200,000 Interborough Rapid Transit 4% Gold			
Notes of 1908,	195,900.00		
142,000 Kansas City, Fort Scott & Memphis			
Cons. M. 6's of 1928,	172,230.46		
114,000 Kansas City, Memphis & Birmingham			
(assented) Income 5's of 1934,	108,500.00		
100,000 Lake Shore & Michigan Southern Deb.			
4's of 1928,	95,000.00		
300,000 Long Island Unified M. 4's of 1949,	288,257.50		
200,000 Louisville & Jeffersonville Bridge Co.			
1st M. 4's of 1945,	191,000.00		
100,000 Metrop. West Side Elevated 4's of 1938,	91,746.25		
100,000 " " " Ext. M. 4's			
of 1938,	97,000.00		
100,000 Minneapolis Union 1st M. 5's of 1922,	102,263.81		
100,000 Missouri Pacific 5% Notes of 1906,	99,000.00		
91,000 Montana Central 1st M. 6's of 1937,	124,215.00		
300,000 New York Central & H. R. (L. S. &			
M. S. Coll.) 3½'s of 1998,	295,964.40		
100,000 New York, New Haven & Hartford Deb.			
4's of 1955,	106,250.00		
200,000 New York, Ontario & Western Ref. M.			
4's of 1992,	210,080.45		
848,000 Northern Pacific-Great Northern Joint			
4's (C. B. & Q. Coll.) of 1921,	164,325.92		
150,000 Old Colony Street R'y 1st M. Ref. 4's of			
1954,	139,000.00		
100,000 Oregon Short Line Cons. 1st M. 5's of			
1946,	117,095.59		
81,000 Pennsylvania Co. 3½'s of 1916,	78,875.00		
50,000 Pennsylvania Co. Coll. Tr. 4½% Notes of			
1905,	49,598.75		
100,000 Rutland Car Trust 4½'s of 1905,	100,000.00		
100,000 St. Louis & San Francisco Ref. M. 4's			
of 1951,	97,125.00		
100,000 Schenectady 1st M. 4½'s of 1941,	104,679.48		
£40,000 St. Paul, Minneapolis & Manitoba (Paci-			
fic Extension) 4's of 1940,	201,696.97		
\$100,000 Second Ave. (N. Y.) Con. M. 5's of 1948,	116,973.82		
200,000 Terminal R. R. Association of St. Louis			
Gen. M. Ref. 4's of 1953,	200,000.00		
Amounts carried forward, . . .		\$5,686,880.63	\$4,028,511.58

Amounts brought forward, . . . \$5,686,380.63 \$4,028,511.58

Railroad Bonds (continued).

200,000 Third Avenue (N. Y.) 1st Consol. M.		
4's of 2000,	202,333.03	
400,000 Union Pacific 1st M. & L. G. 4's of 1947,	353,114.75	6,241,828.41

Sundry Bonds.

\$200,000 American Bell Tel. Co. 4's of 1908,	\$201,524.96	
200,000 American Tel. & Tel. Co. 4's of 1929,	196,000.00	
100,000 American Tel. & Tel. Co. 5% Gold Coupon		
Notes of 1907,	96,562.50	
100,000 Boston Electric Light Co. 1st Cons. M.		
5's of 1924,	118,250.00	
145,000 Broadway Realty Co. Purchase money		
1st M. 5's of 1926,	155,400.52	
100,000 Chicago Edison Co. 1st M. 5's of 1926,	106,098.40	
250,000 Chicago Junction Railways and Union		
Stock Yards Coll. Trust 5's of 1915,	250,201.45	
100,000 Chicago Junction Railways and Union		
Stock Yards 4's of 1940,	98,500.00	
100,000 Metrop. Tel. & Tel. Co. 1st M. 5's of 1918,	99,500.00	
100,000 Minneapolis General Electric Co. Gen.		
M. 5's of 1984,	102,500.00	
100,000 Montreal Light, Heat and Power Co. 1st		
M. Coll. Tr. 4½'s of 1932,	100,883.31	
100,000 Municipal Gas & Electric Co. of Roches-		
ter, N. Y., 1st M. 4½'s of 1942,	100,000.00	
100,000 New England Tel. & Tel. Co. 6's of 1906,	100,396.84	
100,000 " " " 5's of 1916,	110,352.92	
100,000 Portland General Electric Co. 1st M.		
5's of 1935,	102,250.00	
100,000 Public Service Corporation of New		
Jersey 5% Coll. Notes of 1909,	97,000.00	
110,000 St. Louis National Stock Yards Co. 1st		
M. 4's of 1930,	108,650.00	2,188,970.90

Railroad Stocks.

575 shares Chicago & No. Western, common,	\$90,062.50	
129 " Great Northern, preferred,	23,261.93	
700 " Manhattan,	92,762.50	
1225 " N. Y. Central & Hud. River,	64,674.87	
418 " New York, New Haven & Hartford,	76,700.26	
4771 " Pennsylvania,	309,500.30	656,962.36

Manufacturing and Telephone Stocks.

2000 shares American Smelters Securities Co. 5%		
cumulative, preferred, series B,	\$196,000.00	
1700 shares American Tel. & Tel. Co.,	238,125.88	
12 " Amoskeag Manufacturing Co.,	3,654.00	
187 " Merrimack " "	18,615.10	
24 " Pacific Mills,	16,668.29	473,062.77

Amount carried forward, \$13,534,326.02

Amount brought forward, \$18,534,386.02

Real Estate Trust Stocks.

1000 shares Barristers Hall Trust,	\$92,766.00	
2500 " Department Store Trust,	220,291.88	
1000 " Essex Street Trust,	100,000.00	
750 " Kimball Building Trust,	75,000.00	
1089 " Paddock Building Trust,	104,363.72	
1000 " Post Office Square Building Trust,	103,000.00	695,421.60

Real Estate.

Adams Estate, Washington Street, Boston, . . .	\$278,373.02	
Amory Estate, Franklin Street, Boston,	165,615.81	
Cowdin Estate, Haymarket Square, Boston, . .	36,000.00	
Estate, 20 and 21 Haymarket Square, Boston, . .	58,913.52	
Gerrish Block, Blackstone and North Streets, Boston,	192,875.75	
Gray Estate, Washington Street, Boston,	893,509.30	
Lowell Estate, Washington Street, Boston, . . .	464,368.91	
Townsend Estate, Hawkins Street, Boston, . . .	44,709.11	
Webb Estate, Washington Street, Boston,	164,604.79	2,298,970.21

Sundries.

Advances to Bussey Trust,	\$232,671.81	
" Calvin & Lucy Ellis Real Estate,	167.12	
" Dental School Real Estate,	84.52	
" Medical School Undertaking,	751,311.93	
" Observatory,	5,466.59	
" Peabody Museum of American Archaeology and Ethnology,	1,981.04	
" Botanic Department,	8,088.11	
" Harvard Dining Association,	76,649.77	
" Randall Hall Association,	33,202.27	
" Uriah A. Boyden Fund,	3,160.73	
" T. Jefferson Coolidge Fund,	1,076.03	
" Classical Publication Fund of the Class of 1856,	1,395.85	
" Woodland Hill Fund,	2,011.46	
" Stadium,	55,886.08	
" Sundry Accounts,	1,160.48	
	<u>\$1,178,263.79</u>	

Term bills overdue, 57,675.59 1,280,939.38

Cash in Adams Trust Co.,	\$51,692.62	
" Equitable Trust Co.,	48,787.87	
" Merchants National Bank,	7,937.54	
" National Shawmut Bank,	25,145.21	
" National Union Bank,	61,719.58	
" Old Boston National Bank,	42,858.31	
" hands of Charles F. Mason, Bursar,	38,217.37	276,358.50
Total,	\$18,086,025.71	

The foregoing Property represents the following Funds and Balances, and is answerable for the same.*

Principal, Aug. 1, 1904.	UNIVERSITY FUNDS.	Principal, July 31, 1906.
\$1,143.00	Band Music (1903),	\$1,143.00
4,950.00	Andrew Bigelow (1898),	4,950.00
5,000.00	Stanton Blake (1899),	5,000.00
4,771.83	Charlotte F. Blanchard (1891),	4,771.83
5,250.00	Samuel D. Bradford (1866),	5,250.00
12,500.00	John W. Carter (1898),	12,500.00
154.86	Thomas Cotton (1727),	155.10
33,835.06	John Cowdin (1888),	33,835.06
115,966.56	George B. Dorr (1882),	115,966.56
48,458.50	George Draper (1892),	48,458.50
56,787.00	R. H. Eddy (1901),	56,787.00
101,225.49	Harvard Ellis (1895),	101,225.49
	Richard W. Foster (1905),	12,500.00
5,322.09	John Davis Williams French (1901),	5,322.09
20,571.18	Gore (1834),	20,571.18
25,000.00	John C. Gray (1881),	25,000.00
20,000.00	Walter Hastings (1888),	20,000.00
5,000.00	George Baxter Hyde (1895),	5,000.00
61,142.17	Insurance and Guaranty (1860),	36,005.06
16,871.63	Leonard Jarvis (1859),	16,871.63
10,000.00	Henry P. Kidder (1894),	10,000.00
10,000.00	Joseph Lee (1802),	10,000.00
10,000.00	Theodore Lyman (1898),	10,000.00
81,950.54	Henry T. Morgan (1883),	81,950.54
15,750.00	Israel Munson (1844),	15,750.00
45,105.94	Henry S. Nourse (1904),	47,475.66
113,817.44	Francis E. Parker (1886),	113,817.44
30,000.00	William Perkins (1888),	30,000.00
50,846.79	Henry L. Pierce (1898),	50,846.17
205,474.96	Henry L. Pierce (Residuary) (1898),	205,474.96
63,652.19	President's (1883),	63,750.24
366,416.47	Retiring Allowance (1879),	366,416.47
6,000.00	Riverside (1903),	6,000.00
23,370.03	John L. Russell (1889),	23,370.03
1,930.18	Mary R. Searle (1903),	1,901.77
46,913.13	Isaac Sweetser (1894),	46,913.13
5,000.00	Seth Turner (1883),	5,000.00
50,000.00	Henry Villard (1902),	50,000.00
100,000.00	William F. Weld (1893),	100,000.00
\$1,779,797.54	. . . Amounts carried forward,	\$1,769,978.41

* The dates of the establishment of the Funds are printed after their titles.

Principal,
Aug. 1, 1904.

Principal, July 31, 1906.

\$1,779,797.54	.. Amounts brought forward,	\$1,769,978.41
----------------	---------------------------------------	----------------

* COLLEGE FUNDS.

9,809.88	John W. P. Abbot (1874), . . .	10,292.53
27,748.64	Alford Professorship (1765), . . .	27,748.64
6,230.00	Daniel Austin (1879),	6,230.00
15,000.00	Robert Charles Billings, for Gray Herbarium (1903),	15,000.00
1,050.00	John A. Blanchard (1873), . .	1,050.00
39,780.00	Botanic Department (1880),	39,780.00
28,337.40	Boylston Professorship (1772), . .	28,337.40
	Walter Channing Cabot (1905),	50,717.48
11,280.77	Francis James Child Mem. (1897),	11,487.75
7,105.12	Classical Publ. F'd of Class of 1856 (1888),	7,105.12
	Class of 1880 (1905),	100,409.98
150,445.04	Class Subscription (1870),	150,617.54
	Edward W. Codman (1905), . .	321,861.90
939.81	Cryptogamic Herbarium (balance), .	1,429.10
58,568.65	T. Jefferson Coolidge, for Re- search in Physics,	57,500.00
3,524.75	Paul Dudley (1751),	3,598.18
104,002.11	Eaton Professorship (1903), . .	105,051.21
21,619.50	Eliot Professorship (1814),	21,619.50
10,000.00	Eliot " (Jon. Phillips' gift) (1854),	10,000.00
3,500.01	Erving Professorship (1791), . . .	3,500.01
35,990.99	Fisher " (1834),	35,990.99
413.67	Henry Flynt (1760),	434.04
16,240.38	Fund for Permanent Tutors (1796), .	16,240.38
1,033.57	Fund for Religious Services (1887), .	1,033.57
12,812.94	Godkin Lecture (1903),	12,943.34
6,626.77	Gospel Church (1868),	6,789.80
939.77	Gray Herbarium (balance),	882.39
32,611.00	Asa Gray Memorial (1898), . . .	32,611.00
21,614.47	Asa Gray Professorship of Syste- matic Botany (1897),	21,646.65
195,739.15	Gurney (1888),	196,869.51
5,039.73	George Silsbee and Ellen Sever Hale (1904),	5,287.70
15,000.00	Harvard Oriental Series (1899), . .	15,063.00
20,655.91	Herbarium (1865),	20,655.91
20,217.08	Hersey Professorship (1772), . . .	20,217.08
21,744.18	Hersey Professorship (Thomas Lee's gift) (1856),	21,744.18
34,517.60	Hollis Professorship of Divinity (1726),	34,517.60
3,747.38	Hollis " of Mathematics (1718),	3,747.38
\$2,723,683.76	.. Amounts carried forward,	\$1,418,960.81
		\$1,769,978.41

* Including some actually used in the Graduate School.

Principal, Aug. 1, 1904.		Principal, July 31, 1906.
\$2,728,688.76	. . Amounts brought forward, . . .	\$1,418,960.81 \$1,769,978.41
6,024.09	Ingersoll Lecture (1894),	6,059.47
1,748.50	Jefferson Physical Lab'y (balance),	2,087.04
10,664.75	Lectures on Political Economy (1889),	10,787.97
15,796.97	Lee Fund for Reading (1863), . . .	15,796.97
109,012.20	Henry Lee Professorship (1900), .	109,875.59
7,916.49	Joseph Lovering (1891),	7,999.05
66,407.31	Lowell Fund for a Botanic Garden (1882) (formerly Professorship of Natural History, 1805),	66,407.31
25,000.00	Arthur T. Lyman (1904), . . .	25,000.00
43,062.93	McLean Professorship (1884), . .	43,062.93
1,049.29	Music Department (1903),	1,100.90
23,706.46	William B. Noble Lectures (1898), Francis Greenwood Peabody Endowment (1905),	24,294.17
14,196.53	Daniel H. Peirce (1876),	14,266.38
21,000.00	Perkins Professorship (1841), . .	21,000.00
31,500.00	Jonathan Phillips (1861), . . .	31,500.00
75,000.00	Physical Laboratory Endowm't (1881),	75,000.00
25,020.19	Plummer Professorship (1854), . .	25,020.19
52,500.00	Pope " (1868),	52,500.00
224,854.87	Professorship of Hygiene (1899), . .	231,502.63
515,376.50	Nelson Robinson, Jr. (1899), .	520,300.72
56,368.78	Rumford Professorship (1819), . .	56,368.78
2,000.00	John L. Russell (1889),	2,000.00
60,000.00	Gurdon Saltonstall (1901), . .	60,000.00
4,586.64	George William Sawin (1890),	4,630.90
683.34	Schol. & Benef. money returned (bal.),	484.48
30.58	Barthold Schlesinger (1901), .	17.53
	School for Social Workers (balance), (1904),	3,957.17
23,189.83	Smith Professorship (1816), . . .	23,189.83
	William M. Spackman (1905),	2,500.00
13,284.22	Josiah Stickney (1899),	13,589.79
	Teachers' Endowment (1905), . . .	740,255.55
16,465.04	John E. Thayer (1885),	16,592.82
1,107.04	Elizabeth Torrey (1896),	1,015.14
11,265.14	Henry Warren Torrey (1890), .	11,254.41
101,179.70	Unknown Memorial (1898), . . .	101,860.62
40,000.00	Wales Professorship (1903), . . .	40,000.00
15,500.00	Samuel Ward (1680),	16,233.58
6,426.78	Cyrus M. Warren (1893), . . .	6,489.34
120,386.57	Henry C. Warren (1899), . . .	119,999.17
5,861.07	Sylvester Waterhouse (1896), .	6,149.43
50,000.00	Increase S. Wheeler (1889), . .	50,000.00
10.38	Jerome Wheelock (1903), . . .	21.22
1,027.50	Chauncey Wright (1884), . . .	1,076.10
\$4,522,742.90	. . Amounts carried forward, . . .	\$4,080,927.96 \$1,769,978.41

Principal, Aug. 1, 1904.		Principal, July 31, 1905.	
\$4,522,742.90	. . Amounts brought forward, . . .	\$4,080,927.96	\$1,769,978.41
4,375.38	Gifts for Books, Prints, Casts, etc., for Dept. of Architec. (bal.),	2,264.02	
1,427.08	" Cases, etc., at Botanic Gar- den (balance),	1,373.75	
188.17	" Classical Library (balance),	229.46	
322.52	" Collections for a Germanic Museum (balance), . . .	322.52	
.18	" Engineering Department, Elec- trical Apparatus (bal.), .	.18	
3,437.15	" The Ethics of the Social Questions (bal.),	4,077.77	
	" Furnishings of the Depart- ment of The Ethics of the Social Questions (bal.), .	18,014.25	
	" Furnishing Emerson Hall (bal.),	22,390.79	
12.65	" Physical Research (bal.), .	10.65	
3,556.96	" Plantation of Shrubs, etc. (bal.),	3,377.56	
1,500.00	" Salaries (balance),	375.00	
182.28	" Sanskrit Department (bal.),	262.32	
870.09	" Semitic Library (bal.), . .	618.57	
908.67	" Sugar-cane investigation, etc. (balance),	806.64	
3,647.13	Sundry Gifts (unexpended balances),	5,576.62	

FELLOWSHIP FUNDS.

100.00	Cercle Français de l'Université Har- vard (balance),		
5,289.61	George Wales Dillaway (1903),	5,249.88	
11,317.42	Ozias Goodwin Memorial (1889),	11,524.22	
10,861.28	Harris (1868),	11,145.64	
	Edward William Hooper (1905),	25,409.98	
11,068.42	John Thornton Kirkland (1871),	10,932.72	
11,510.51	Henry Lee Memorial (1889), . .	11,851.85	
14,100.00	Charles Eliot Norton (1901), .	14,400.00	
12,856.52	Robert Treat Paine (1887), . .	12,989.08	
57,852.37	John Parker (1873),	58,949.09	
32,478.55	Rogers (1869),	32,264.02	
11,569.45	Henry Bromfield Rogers Memo- rial (1889),	11,688.64	
11,824.19	John Tyndall (1885),	11,905.93	
11,228.95	James Walker (1881),	11,281.42	
23,092.62	Whiting (1896),	23,228.80	

SCHOLARSHIP FUNDS.

3,780.88	Abbot (1852),	3,816.91	
2,072.61	Alford (1785),	2,174.60	
5,385.24	Bartlett (1881),	5,400.18	
\$4,779,049.68	. . Amounts carried forward, . . .	\$4,899,842.97	\$1,769,978.41

Principal, Aug. 1, 1904.		Principal, July 31, 1905.	
\$4,779,049.68	Amounts brought forward, . . .	\$4,899,842.97	\$1,769,978.41
5,701.79	Bassett (1876),	5,682.33	
13,106.30	Bigelow (1865),	13,351.12	
2,588.78	Borden (1896),	2,716.16	
113,740.63	Bowditch (1864),	114,353.35	
3,160.37	Bright (balance),	3,545.84	
3,894.09	Browne (1887),	3,885.67	
5,358.01	Morey Willard Buckminster (1898),	5,311.46	
33,563.56	Burr (1895),	33,961.59	
6,136.45	Euluff S. Choate (1884),	6,163.34	
8,342.59	Class of 1802 (1870),	8,428.07	
3,211.57	" 1814 (1853),	3,294.60	
6,668.52	" 1815 (Kirkland) (1852), . . .	6,663.29	
4,644.21	" 1817 (1852),	4,639.35	
3,554.29	" 1828 (1882),	3,529.15	
5,026.73	" 1835 (1853),	5,040.73	
5,151.29	" 1841 (1871),	5,204.72	
5,150.16	" 1852 (Dana) (1876),	5,203.54	
15,785.95	" 1856 (1885),	15,962.62	
4,763.18	" 1867 (1886),	4,822.52	
5,107.00	" 1877 (1902),	5,238.26	
5,429.27	" 1883 (1900),	6,069.80	
12,074.78	Crowninshield (1877),	12,233.87	
700.00	W. H. Cudworth (balance), . . .	600.00	
5,750.17	Francis H. Cummings (1898), . .	5,833.07	
5,637.25	Geo. and Martha Derby (1881), .	5,531.25	
5,092.47	Julius Dexter (1892),	5,168.00	
2,818.57	O. W. Doe (1893),	2,857.26	
500.00	Department of Education (balance),		
5,498.64	W. S. Eliot (1875),	5,519.19	
41,059.15	Joseph Eveleth (1896),	41,459.25	
2,194.98	Fall River (1893),	2,196.31	
6,808.80	Farrar (1873),	6,369.20	
11,476.58	Richard Augustine Gambrill (1890),	11,591.25	
7,681.85	Charles Haven Goodwin (1889), .	7,759.81	
4,340.07	Greene (1863),	4,353.60	
	Price Greenleaf (balance), . . .	120.00	
66.66	Harvard Club of Buffalo (balance),	80.00	
10,170.20	John Appleton Haven (1902), . .	10,430.56	
24,022.61	William Hilton (1897),	24,229.54	
10,862.80	Ebenezer Rockwood Hoar (1895), .	10,930.60	
6,340.98	Levina Hoar (1876),	6,502.96	
13,647.27	Hodges (1878),	13,690.69	
6,295.54	Hollis (1722),	6,380.30	
10,871.92	Henry B. Humphrey (1890), . . .	10,956.82	
30,774.59	C. L. Jones (1901),	31,088.72	
\$5,263,215.30	Amounts carried forward, . . .	\$4,888,842.72	\$1,769,978.41

<u>Principal, Aug. 1, 1904.</u>		<u>Principal, July 31, 1905.</u>	
\$5,263,215.30	. . . Amounts brought forward, . . .	\$4,888,842.72	\$1,769,978.41
10,433.49	G. E. Lowell (1886),	10,546.79	
5,211.08	Markoe (1903),	5,317.46	
2,768.78	Matthews (balance),	3,285.94	
6,173.88	Merrick (1888),	6,252.09	
8,308.52	Morey (1868),	8,392.32	
5,824.31	Lady Mowlson (1643),	5,885.85	
5,744.59	Howard Gardner Nichols (1897),	5,760.58	
5,760.50	Lucy Osgood (1873),	6,043.89	
5,007.16	George Foster Peabody (1902),	5,067.34	
6,453.02	Pennoyer (1670),	6,725.51	
4,358.89	Perkins (1869),	4,423.35	
10,260.61	Philadelphia (1904),	10,921.80	
1,533.59	Wendell Phillips Mem'l (1895),	1,559.06	
350.00	Ricardo Prize (balance),	350.00	
1,164.31	Rodger (1883),	1,221.58	
3,500.33	Henry B. Rogers (1859),	3,522.53	
5,755.34	Edward Russell (1877),	5,813.49	
5,637.54	Sales (1893),	5,681.59	
11,212.19	Saltonstall (1739),	11,338.82	
8,553.82	Leverett Saltonstall (1895), . .	8,649.68	
6,928.88	Mary Saltonstall (1730),	6,964.54	
3,298.29	Sever (1868),	3,260.55	
11,035.30	Sewall (1696),	11,178.23	
49,272.54	Shattuck (1854),	49,596.77	
6,150.82	Slade (1877),	6,120.11	
4,766.66	Dunlap Smith (1903),	4,703.30	
4,511.88	Story (1864),	4,558.82	
2,873.28	Stoughton (1701),	3,035.97	
3,584.85	Swift (1899),	3,708.77	
79,008.96	Thayer (1857),	79,796.20	
4,255.95	Gorham Thomas (1865),	4,315.35	
7,704.90	Toppa (1868),	7,783.99	
25,613.61	Townsend (1861),	25,873.82	
4,946.04	Walcott (1855),	5,069.38	
10,615.67	Christopher M. Weld (1899), . .	10,738.18	
5,372.38	Jacob Wendell (1899),	5,841.60	
11,773.96	Whiting (1874),	11,828.24	
5,000.00	Josiah Dwight Whitney (1904),	5,046.00	
9,315.70	Mary L. Whitney (1903),	9,539.94	
	Charles Wyman (1905),	10,123.00	
	Anonymous Gift for Scholarship use,	100.00	
BENEFICIARY AND LOAN FUNDS.			
50,522.68	Rebecca C. Ames (1903),	51,576.57	
575.54	Nathaniel Appleton (1772), . . .	603.88	
1,814.01	Frank Bolles Memorial (1894), . .	1,903.26	
1,578.42	William Brattle (1717),	1,578.42	
\$5,687,692.22	. . . Amounts carried forward, . . .	\$5,329,967.27	\$1,769,978.41

Principal, Aug. 1, 1904.		Principal, July 31, 1905.	
\$5,687,692.22	Amounts brought forward, . . .	\$5,829,967.27	\$1,769,978.41
1,027.73	Thomas Danforth (1724), . . .	1,078.31	
5,448.73	Moses Day (1880),	5,448.73	
	Daniel A. Buckley (1905), . . .	58,511.62	
411.08	John Ellery (1738),	431.30	
1,383.34	Exhibitions (1796),	1,383.34	
770.91	Thomas Fitch (1737),	808.84	
443.14	Ephraim Flynt (1723),	464.94	
154.06	Henry Flynt (1760),	161.64	
460.71	Henry Gibbs (1722),	483.39	
3,051.74	John Glover (1653),	3,201.90	
12,089.09	Price Greenleaf Aid (balance), .	12,387.77	
	Edwin A. W. Harlow (1905), .	1,624.55	
359.16	Edward Holyoke (1743), . . .	360.48	
2,441.40	Robert Keayne (1659),	2,441.40	
26,192.50	Bertram Kimball (1903), . . .	26,230.00	
1,010.37	Mary Lindall (1812),	1,056.92	
5,988.87	Susan B. Lyman (1899),	6,288.58	
215.88	Anne Mills (1725),	226.46	
10,906.81	Munroe (1880),	10,906.81	
2,088.54	Palfrey Exhibition (1821), . . .	2,058.86	
4,722.59	Dr. A. P. Peabody Memorial (1896),	4,884.96	
205.52	Joseph Sewall (1765),	215.65	
14,754.29	Alexander W. Thayer (1899), .	15,000.19	
11,155.10	Quincy Tufts (1877),	11,155.10	
277.61	Benjamin Wadsworth (1737), .	291.19	
PRIZE FUNDS.			
	Jeremy Belknap (balance), . . .	50.00	
1,524.39	James Gordon Bennett (1893), .	1,599.37	
	Philo Sherman Bennett (1905),	402.46	
10,134.23	Francis Boott (1904),	10,320.32	
30,835.80	Bowdoin Prizes for Dissertations (1791),	31,106.13	
3,416.92	Boylston Prizes for Elocution (1817),	3,330.04	
5,288.19	Coolidge Debating (1899),	5,348.36	
50.00	Dante (balance),	50.00	
	Lloyd McKim Garrison Prize and Medal (1904),	2,700.00	
1,803.18	Edward Hopkins Gift for "De- turs" (1718) (balance),	1,845.47	
1,078.96	Sales (1892),	1,087.05	
2,566.85	John O. Sargent (1889),	2,693.15	
7,000.00	George B. Schier (1890),	7,000.00	
3,545.97	Charles Sumner (1874),	3,620.43	
3,725.47	Robert N. Toppan (1894),	3,908.74	
2,170.66	Philip Washburn (1899),	2,202.47	
110,276.60	David A. Wells (1901),	114,552.56	5,688,852.18
\$5,976,568.46	Amounts carried forward,		\$7,458,810.59

Principal, Aug. 1, 1904.		Principal, July 31, 1906.
\$5,976,568.46 . . . Amounts brought forward,		\$7,458,810.59
LIBRARY FUNDS.		
2,185.66	Bowditch (1861),	\$2,112.70
112.42	Bright (balance),	154.77
641.39	Fund of the Class of 1851 (1899),	672.93
681.56	“ “ “ 1851 (C. F.	
	Dunbar's Gift) (1899),	662.65
27,792.28	Edwin Conant (1892),	27,797.53
25,940.46	Constantius (1886),	25,967.15
5,318.80	Denny (1875),	5,323.77
5,346.85	Farrar (1871),	5,425.84
3,263.35	Haven (1844),	3,308.45
10,055.18	Hayes (1885),	10,157.40
5,290.77	Hayward (1864),	5,279.53
745.25	R. M. Hodges (balance),	1,128.26
2,347.46	Hollis (1781),	2,389.81
2,181.50	Homer (1871),	2,150.46
517.39	Jarvis (1885),	502.86
5,270.15	Lane (1863),	5,288.08
26,492.00	Lowell (1881),	26,899.26
60,607.32	Minot (1870),	60,406.31
	Charles Eliot Norton (1905), .	8,584.83
7,147.16	Lucy Osgood (1878),	7,197.08
7,013.71	Mary Osgood (1860),	7,082.51
283.86	Price Greenleaf Income for Books	
	(balance),	105.32
3,950.15	Sales (1892),	3,916.67
5,318.82	Salisbury (1858),	5,357.60
20,357.27	Sever (1878),	20,152.27
3,949.87	Shapleigh (1801),	3,958.31
45.23	George B. Schier (balance), . .	104.39
10,501.24	Subscription for Library (1859), . .	10,548.85
37,516.98	Sumner (1875),	37,684.11
5,142.13	Kenneth Matheson Taylor (1899),	5,158.71
12,228.33	Daniel Treadwell (1885), . . .	12,164.18
5,285.36	Ishabod Tucker (1875),	5,278.00
175.50	Wales Income for Books (balance),	348.05
15,932.40	Walker (1875),	16,032.21
5,287.54	Ward (1858),	5,250.41
271.70	Waterston Gift (balance),	
20,104.08	J. Huntington Wolcott (1891),	20,087.02
100,000.00	Eben Wright (1883),	100,000.00
1,232.20	Sundry Gifts for books (unexpended	
	balances),	2,541.22
320.26	Sundry balances,	306.41
\$6,423,816.94 . . . Amounts carried forward,		\$7,916,236.00

Principal, Aug. 1, 1904.		Principal, July 31, 1906.
\$6,428,816.94	.. Amounts brought forward,	\$7,916,236.00

DIVINITY SCHOOL FUNDS.

14,172.65	Divinity School (balance),	\$11,086.73
71,427.02	New Endowment (1879),	71,427.02
17,000.00	Oliver Ames (1880),	17,000.00
525.00	Hannah C. Andrews (1836),	525.00
890.00	Daniel Austin (1880),	890.00
1,000.00	Adams Ayer (1869),	1,000.00
15,275.00	Joseph Baker (1876),	15,275.00
182.40	Beneficiary money returned (balance),	191.35
4,243.54	Rushton Dashwood Burr (1894),	4,452.34
37,583.74	Bussey Professorship (1862),	37,583.74
2,177.95	Joshua Clapp (1836),	2,177.95
5,000.00	Edwin Conant (1892),	5,000.00
25,544.37	Dexter Lectureship (1810),	25,544.37
53,203.14	Frothingham Professorship (1892),	53,703.14
1,050.00	Abraham W. Fuller (1847),	1,050.00
911.34	Lewis Gould (1852),	911.34
788.52	Louisa J. Hall (1893),	821.29
6,008.48	Hancock Professorship (1765),	6,008.43
76,885.81	Charles L. Hancock (1891),	77,600.81
5,000.00	Haven (1898),	5,000.00
1,050.00	Samuel Hoar (1857),	1,050.00
10,000.00	Henry P. Kidder (1881),	10,000.00
9,184.69	Henry Lienow (1841),	9,184.69
1,050.00	Caroline Merriam (1867),	1,050.00
16,015.81	Parkman Professorship (1814),	16,015.81
529.69	John W. Quinby (1888),	555.76
1,000.00	Abby Crooker Richmond (1881),	1,000.00
1,000.00	John L. Russell (1890),	1,000.00
10,000.00	William B. Spooner (1890),	10,000.00
40,000.00	Thomas Tileston of New York Endowment (1879),	40,000.00
5,250.00	Mary P. Townsend (1861),	5,250.00
2,100.00	Winthrop Ward (1862),	2,100.00
55,845.73	Winn Professorship (1877),	55,845.73

SCHOLARSHIP AND BENEFICIARY FUNDS.

2,509.92	Robert Charles Billings Prize (1904),	2,533.41
13,229.12	Abner W. Buttrick (1880),	13,804.98
5,659.06	Thomas Cary (1820),	5,697.48
2,758.98	George Chapman (1834),	2,794.67
4,489.29	Joshua Clapp (1839),	4,530.14
14,978.42	Jackson Foundation (1835),	15,075.38
5,458.01	J. Henry Kendall (1863),	5,526.54
3,476.69	Nancy Kendall (1846),	3,507.75
1,050.00	William Pomroy (1835),	1,050.00
		544,320.80
\$6,968,321.21	.. Amounts carried forward,	\$8,460,556.80

Principal, Aug. 1, 1904.	Principal, July 31, 1906.
\$6,968,321.21	\$8,460,556.80

LAW SCHOOL FUNDS.

281,556.95	Law School (balance),	\$322,908.17	
	James Barr Ames Loan (1904),	522.53	
8,705.23	James Barr Ames Prize (1898),	3,864.97	
71,161.66	Bemis Professorship (1879),	74,662.88	
23,979.82	Bussey " (1862),	23,979.82	
15,750.00	Dane " (1829),	15,750.00	
	525.93 Hughes Loan (1903),	66.17	
47,021.25	Law School Book (1882),	47,021.25	
	75.00 Law School Exhibition,		
100,000.00	Law School Library (1898),	100,000.00	
8,340.81	Royall Professorship (1781),	8,340.81	
1,967.22	Scholarship money returned (balance),	1,087.01	
94,994.97	Weld Professorship (1882),	94,994.97	698,198.53

LAWRENCE SCIENTIFIC SCHOOL FUNDS.

724.20	Edward Austin Loans repaid (bal.),	\$1,222.24	
30,686.85	John B. Barringer (1873),	30,686.85	
475.00	George H. Emerson Scholarship (1908),	6,142.56	
5,634.60	George A. Gardner (1892),	5,767.19	
10,818.87	Hennen Jennings Scholarship (1898),	10,951.16	
61,536.43	Abbott Lawrence (1859),	61,536.43	
50,375.00	James Lawrence (1865),	50,375.00	
360.55	Lawrence Scientific School Loans repaid (balance),	527.52	
40,805.73	Professorship of Engineering (1847),	40,805.73	
25,000.00	Arthur Rotch (1895),	25,000.00	
5,614.91	Stuart Wadsworth Wheeler (1898),	5,799.69	
150.00	Lawrence Scientific School Association Scholarship (balance),		238,814.37

MUSEUM OF COMPARATIVE ZOOLOGY FUNDS.

23,154.73	Museum of Comparative Zoölogy (bal.),	\$32,306.32	
297,933.10	Agassiz Memorial (1875),	297,933.10	
7,594.01	Teachers' and Pupils' (1875),	7,594.01	
5,532.41	Virginia Barret Gibbs Scholarship (1892),	5,554.58	
50,000.00	Gray Fund for Zoölogical Museum (1859),	50,000.00	
108,464.41	Sturgis Hooper (1865),	108,730.83	
7,740.66	Humboldt (1869),	7,740.66	
5,000.00	Willard Peele Hunnewell (1901),	5,000.00	
117,469.34	Permanent (1859),	117,469.34	632,318.84
\$8,477,470.84	Amounts carried forward,	\$10,024,888.54	

Principal, Aug. 1, 1904.	Principal, July 31, 1905.
\$8,477,470.84	Amounts brought forward, \$10,024,888.54

**PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY
AND ETHNOLOGY FUNDS.**

12,132.16	Hemenway Fellowship (1891), . .	\$12,229.05	
28,355.56	Peabody Building (1866),	28,355.56	
47,335.10	Peabody Collection (1866), . . .	47,335.10	
47,555.07	Peabody Professor (1866), . . .	47,597.25	
30,173.37	Thaw Fellowship (1890),	30,188.44	
10,375.56	Henry C. Warren Exploration (1899),	10,391.06	
5,000.00	Susan Cornelia Warren (1902),	5,000.00	
5,671.22	Robert C. Winthrop Scholarship (1895),	5,830.23	
20,675.57	Huntington Frothingham Wol- cott (1891),	20,802.76	207,729.45

MEDICAL SCHOOL FUNDS.

30,414.50	Medical School (balance),	\$5,560.57	
11,093.88	Edward Austin (Bacteriological Laboratory) (1899),	11,324.85	
25,512.68	Edward M. Barringer (1881), . .	25,512.68	
6,111.37	J. Ingersoll Bowditch (1889), . .	6,264.03	
2,161.85	Boylston Fund for Medical Books (1800),	1,891.49	
21,349.46	John B. & Buckminster Brown Endowment (1896),	21,899.83	
92,551.59	Caroline Brewer Croft (1899),	93,945.52	
381,845.29	Calvin and Lucy Ellis (1899), . .	382,728.64	
101,885.42	George Fabyan (1896),	101,917.84	
1,836.08	Samuel E. Fitz (1884),	1,836.08	
2,922.83	F. B. Greenough (Surgical Re- search) (1901),	3,573.82	
19,192.65	Jackson Medical (1859),	19,192.65	
1,843.73	Medical Library (1872),	1,934.45	
52,923.66	William O. Moseley (1897), . .	53,027.52	
38,750.00	New Subscription (1888),	38,750.00	
9,335.94	Dr. Ruppner (1897),	9,335.94	
50,000.00	Geo. C. Shattuck (1853),	50,000.00	
6,871.42	Surgical Laboratory (1897),	7,167.76	
15,765.11	Mary W. Swett (1884),	15,765.11	
20,000.00	Samuel W. Swett (1884),	20,000.00	
2,000.00	Quincy Tufts (1879),	2,000.00	
14,032.96	Warren Fund for Anatomical Mu- seum (1848),	14,095.33	
41,908.00	Charles Wilder (1900),	41,968.00	
35,629.90	Henry Willard Williams (1893),	37,382.90	
\$9,670,682.27	. . . Amounts carried forward, . . .	\$967,075.00	\$10,232,617.99.

Principal, Aug. 1, 1904.		Principal, July 31, 1905.	
\$9,870,682.27	Amounts brought forward, . . .	\$967,075.00	\$10,232,617.99
509.68	Gifts for Anatomical Research (bal.),	508.42	
688.28	Gifts for Pathological Dep't Library (balance),	16.26	
1,885.51	Sundry Gifts (unexpended balances),	4,475.08	
FELLOWSHIP FUNDS.			
5,375.10	Geo. Cheyne Shattuck Memorial (1891),	5,414.55	
5,704.74	Charles Eliot Ware Memorial (1891),	5,850.48	
5,330.16	John Ware Memorial (1891), . .	5,367.40	
SCHOLARSHIP FUNDS.			
	Anonymous Aid (1905),	5,133.23	
5,150.85	Lucius F. Billings (1900), . . .	5,204.28	
5,780.60	D. W. Cheever (1889),	5,815.03	
3,159.98	Cotting Gift (1900),	3,190.45	
2,820.68	Orlando W. Doe (1893),	2,859.48	
151.27	John Foster income for Medical Students (balance),	1.27	
5,783.12	Lewis and Harriet Hayden (1894),	5,749.17	
6,424.88	C. M. Jones (1893),	6,490.99	
5,386.61	Alfred Hosmer Linder (1895),	5,531.65	
3,584.48	Joseph Pearson Oliver (1904), .	3,681.81	
5,711.21	Charles B. Porter (1897), . . .	5,792.19	
4,753.86	Charles Pratt Strong (1894), .	4,887.76	
6,548.54	Isaac Sweetser (1892),	6,520.75	
5,300.69	John Thompson Taylor (1899),	5,361.60	
5,410.05	Edward Wigglesworth (1897), .	5,476.22	
PRIZE FUNDS.			
3,773.63	Boylston (1803),	3,796.81	
7,137.28	William H. Thorndike (1895),	7,488.37	1,076,688.05
MEDICAL SCHOOL UNDERTAKING FUNDS.			
109,301.69	Robert C. Billings (1900), . . .	\$114,679.35	
26,585.79	George Fabyan (addition of 1903),	27,898.82	
101,908.49	George Higginson Professorship (1902),	102,422.36	
89,293.73	Henry Jackson Endowment (for- merly Robert Bacon),	93,686.99	
25,000.00	Jackson Professorship (add. of 1902),	25,000.00	
160,694.91	J. Pierpont Morgan Gift, . . .		
388,462.62	Henry L. Pierce (1898),	407,575.00	
53,576.58	Proctor (1903),	55,403.64	
1,071,366.41	John D. Rockefeller Gift (1902),	1,124,077.62	
55,406.28	David Sears Gift (1902),		
\$11,858,649.87	Amounts carried forward, . . .	\$1,950,738.78	\$11,809,806.04

<u>Principal,</u> <u>Aug. 1, 1904.</u>		<u>Principal, July 31, 1906.</u>	
\$11,858,649.87	Amounts brought forward, . . .	\$1,950,738.78	\$11,309,806.04
26,000.00	Shattuck Professorship (addition of 1902),	27,000.00	
109,468.91	James Stillman Professorship (1902),	114,854.78	
4,860.68	School of Comparative Medicine (1899),	5,099.84	
5,351.52	Gift for Pathological Laboratory,	5,555.21	2,108,248.61

DENTAL SCHOOL FUNDS.

30,464.99	Dental School (balance),	\$11,346.73	
2,265.85	Dental School Endowment (1880),	2,265.85	
23,000.00	Henry C. Warren Endowment (1889),	23,000.00	
21,804.78	Gifts for Building (1892),	9,615.28	46,227.86

OBSERVATORY FUNDS.

50,885.00	Advancement of Astron. Science (1901),	\$50,460.00	
21,554.91	Advancement of Astron. Science (1902),	20,212.51	
8,468.87	Anonymous Gift (1902),		
5,000.00	Thomas G. Appleton (1884),	5,000.00	
2,500.00	J. Ingersoll Bowditch (1889),	2,500.00	
200,000.00	Uriah A. Boyden (1887),	200,000.00	
270.98	Draper Memorial (balance),	547.55	
2,000.00	Charlotte Harris (1877),	2,000.00	
45,000.00	Haven (1898),	45,000.00	
21,000.00	James Hayward (1866),	21,000.00	
50,000.00	Observatory Endowment (1882),	50,000.00	
50,000.00	Paine Professorship (1886),	50,000.00	
273,932.07	Robert Treat Paine (1886),	273,932.07	
110,293.88	Edward B. Phillips (1849),	110,293.88	
13,462.77	Josiah Quincy (1866),	14,125.15	
38,267.63	David Sears (1845),	39,209.03	
13,880.00	Augustus Story (1871),	13,880.00	
42.35	Gift for publishing lunar photographs,	42.35	897,702.54

BUSSEY INSTITUTION FUNDS.

28,566.18	Bussey Institution (balance),	\$27,143.83	
19,225.38	Woodland Hill (1895),	18,647.40	45,791.23

ARNOLD ARBORETUM FUNDS.

124,095.00	Arnold Arboretum (1899),	\$124,980.00	
160,082.99	James Arnold (1872),	160,486.79	
19,050.52	Arboretum Construction Gifts (bal.),	28,905.81	
12,500.00	Robert Charles Billings (1904),	12,500.00	
23,790.12	William L. Bradley (1897),	23,288.59	
2,208.06	Bussey Fund for the Arnold Arboretum (1903),	2,208.06	
	Gift for books (balance),	3,280.79	355,700.04
\$18,372,042.71	Amounts carried forward,	\$14,757,976.32	

Principal, Aug. 1, 1904.		Principal, July 31, 1906.
\$18,372,042.71	Amounts brought forward,	\$14,757,976.82

OTHER FUNDS FOR SPECIAL PURPOSES.

PHILLIPS BROOKS HOUSE.

10,506.66	Phillips Brooks House Endowment (1901),	\$10,506.66
11,024.22	Ralph H. Shepard (1900), . . .	11,348.64
6,468.31	Ralph H. Shepard Memorial (1898),	6,786.54
5,819.92	John W. and Belinda L. Randall (1897),	5,706.27

WILLIAM HAYES FOGG ART MUSEUM.

108.58	Fogg Art Museum (balance), . . .	475.19
50,000.00	William Hayes Fogg (1892), . .	50,000.00
16,248.66	Gray Fund for Engravings (1858),	16,483.12
16,678.30	William M. Prichard (1898), . .	17,445.05
38,968.98	John Witt Randall (1892), . . .	34,252.74

STILLMAN INFIRMARY.

	Stillman Infirmary (balance), . .	2,312.93
7,447.10	Stillman Infirmary Gift (balance),	5,274.92
50,000.00	Robert Charles Billings, for Stillman Infirmary (1903), . .	52,460.00
5,328.63	Free Bed Fund of the Class of 1868 (1898),	5,590.82
539.38	Free Bed Fund for Stillman Infirmary (1900),	565.90
3,000.00	Herbert Schurz Memorial Free Bed (1903),	3,147.60
2,645.64	Henry P. Walcott (1901), . . .	2,775.82

CLASS FUNDS.

1,864.32	Fund of the Class of 1834 (1887),	1,422.23
7,982.63	" " " 1844 (1896),	8,315.59
	" " " 1846 (1905),	10,744.45
3,725.00	" " " 1853 (1887),	3,725.00
7,678.87	" " " 1856 (1904),	7,869.00

CONSTRUCTION GIFTS.

421.74	Brighton Marsh Fence (balance), . .	421.74
152,685.01	Emerson Hall, " . .	50,798.38
1,106.29	Semitic Building, " . .	447.26
1,332.47	John Simpkins Hall, " . .	287.17
257,607.87	George Smith Bequest (1904), . .	273,118.57
69,190.30	Stillman Infirmary (Contagious Ward) (balance),	3,146.41
20,436.10	Gift for new University Library Building (balance),	31,306.15
1,460.12	University Museum Building (balance),	
\$14,116,707.76	Amounts carried forward, . . .	\$616,729.15 \$14,757,976.82

Principal, Aug. 1, 1904.		Principal, July 31, 1905.
\$14,116,707.76	Amounts brought forward,	\$616,729.15 \$14,757,976.82

SUNDRY FUNDS.

484,189.87	Edward Austin (1899),	482,150.66	
50,000.00	Bright Legacy (1880),	50,000.00	
18,470.27	Bursar's Sundry Accounts (balance),	22,974.70	
892,710.18	Bussey Trust (1861),	892,710.18	
161,380.99	Calvin and Lucy Ellis Aid (1899),	164,188.13	
3,171.50	John Foster (1840),	3,171.50	
585,643.23	Gains and Losses for General Invest- ments (1891),	596,522.01	
788,865.81	Price Greenleaf (1887),	788,865.31	
29,939.33	Henry Harris (1883),	29,939.33	
1,321.98	Harvard Memorial Society (1898),	1,387.03	
52,561.44	Robert Troup Paine (1880), . .	54,132.65	
42,000.00	James Savage (1873),	42,000.00	
6,972.12	Gifts for Semitic Museum Collection (balance),	6,526.38	
	Gifts for Excavations in Palestine (balance),	5,009.04	
277.96	Gifts for Cuban Teachers (balance),	252.96	
87.27	Sundry balances,	53.70	3,256,562.73

FUNDS IN TRUST FOR PURPOSES NOT
CONNECTED WITH THE COLLEGE.

16,655.24	Daniel Williams (1716),	\$16,685.78	
4,798.65	Sarah Winslow (1790),	4,800.88	21,486.66
<u>\$16,755,753.10</u>			<u>\$18,086,025.71</u>

Changes in the Funds during the year ending July 31, 1905.

Total amount of Funds and balances, July 31, 1905,	
as before stated,	\$18,036,025.71
Total amount of Funds and balances, August 1, 1904,	
as before stated,	16,755,753.10
Showing a total increase during the year of	<u>\$1,280,272.61</u>

Which is made up as follows :—

Gifts forming new Funds or increasing old ones, . .	\$1,455,131.97	
Increase of Funds established during the year, . .	9,519.24	
Credit balances created,	56,871.57	
Gain from change of investments,	19,106.70	
	<u>\$1,540,629.48</u>	
Deduct from this amount		
Sundry balances used up,	\$227,625.88	
Loss from change of investments, . .	457.50	
Decrease more than increase of Funds		
(excluding the Insurance and Guaranty Fund) and balances, which appear both at the beginning and the end of the year,	7,236.43	
Decrease of Insurance and Guaranty Fund, by excess of expenditures over income, in University, College, and Library accounts,	25,137.11	260,356.87
		<u>\$1,280,272.61</u>

Net decrease of Funds and balances as above, . . .	\$260,356.87
Less increase as above,	<u>85,497.51</u>

Leaving amount of the net decrease of the Funds and balances, excluding gifts for capital account,	<u>\$174,859.36</u>
--	---------------------

The following tables are not found, in their present form, in the Treasurer's books. They are intended to exhibit with some detail the resources and the expenditures of each department of the University. Gifts for capital account, gifts for immediate use and the income of every Fund held by the University are given in these tables, and also the sum paid out for the specific object of each and every Fund, whether that sum be less or more than the actual income of the Fund. If the object to which the income of a Fund is to be applied be a general one, — like salaries, for example, — no separate mention is made in these tables of that appropriation. That particular payment is merged with others of the same kind under the general heading. A balanced summary of these tables will be found on page 124.

TABLE NO. I.
THE UNIVERSITY.

RECEIPTS.

Gift for capital account.

Richard W. Foster Fund, \$12,500.00

Income of the following Funds:—

Band Music,	\$56.24
Andrew Bigelow,	243.54
Stanton Blake,	246.00
Charlotte F. Blanchard,	234.73
Samuel D. Bradford,	258.30
John W. Carter,	457.05
Thomas Cotton,	7.68
John Cowdin,	1,664.68
George B. Dorr,	4,225.86
George Draper,	1,765.85
Robert H. Eddy,	2,793.92
Harvard Ellis,	4,980.27
Richard W. Foster,	153.75
J. D. W. French,	261.84
Gore,	1,012.09
John C. Gray,	911.01
Henry Harris ($\frac{1}{4}$ income),	736.50
Walter Hastings,	6.85
George Baxter Hyde,	246.00
Insurance and Guaranty (part),	1,781.92
Leonard Jarvis,	830.10
Henry P. Kidder,	492.00
Joseph Lee,	364.40
Theodore Lyman,	492.00
Israel Munson,	774.90
Henry S. Nourse (part),	1,392.72
Francis E. Parker,	4,147.54
William Perkins,	1,476.00
Henry L. Pierce Residuary (part),	2,729.37

Amounts carried forward, \$34,748.06 \$12,500.00

TABLE NO. I, THE UNIVERSITY, CONTINUED.

RECEIPTS.

Amounts brought forward,	\$34,743.06	\$12,500.00
Income of the following Funds (<i>continued</i>):—		
President's,	8,181.68	
Retiring Allowance,	18,027.66	
John L. Russell,	1,149.80	
Isaac Sweetser,	2,808.12	
Seth Turner,	246.00	
Henry Villard,	1,822.02	
William F. Weld,	8,644.03	65,072.37
Balance remaining after dividing the net income among the Funds,	\$1,849.91	
Care of the Sarah Winslow Fund,	5.90	
Sale of catalogues, calendars, directories, &c.,	1,036.77	
“ sand,	569.72	
Use of houses by College officers,	1,550.00	
Use of land by Harvard Union,	1,260.00	
Gifts for St. Louis Exposition expenses,	81.00	
“ fences in College Yard, for Commencement Day, . .	24.47	
Unrestricted gift,	20.00	
Repayment for expenses in excess of cost,	1.25	5,849.02
		<u>\$68,421.39</u>

PAYMENTS.

Overseers' Expenses.		
Printing President's Annual Report,	\$1,124.16	
“ Treasurer's “ “	321.27	
“ other reports, ballots, etc.,	68.10	
Advertising,	80.65	
Auditing Treasurer's accounts,	150.00	
Other expenses,	10.79	\$1,749.97
Office Expenses.		
President's,		
Clerical services,	\$376.71	
Other expenses,	618.08	\$1,494.79
Treasurer's,		
Clerical services,	\$1,475.50	
Rent of safes,	775.00	
Other expenses,	639.87	2,890.37
Bursar's,		
Clerical services,	\$4,622.23	
Other expenses,	1,763.37	6,385.60
Publication Agent's,		
Clerical and other services,	\$1,944.70	
Other expenses,	1,987.93	3,932.63
Amounts carried forward,	\$14,703.39	\$1,749.97

TABLE NO. I, THE UNIVERSITY, CONTINUED.

PAYMENTS.

Amounts brought forward,	\$14,708.89	\$1,749.97
Office Expenses (continued).		
Inspector of Grounds and Buildings,		
Clerical and other services,	\$1,045.00	
Other expenses,	176.27	1,221.27
Janitor's,		53.78
Corporation Rooms (fuel, rent, &c.),	2,589.35	18,517.74
Salaries.		
President,		
From the University,	\$6,000.00	
" President's Fund,	3,088.63	
" Thomas Cotton Fund,	7.39	\$9,041.02
Treasurer,		6,000.00
Comptroller,		5,000.00
Bursar,		4,000.00
Assistant Bursar,		2,000.00
Secretary to the President,		2,500.00
Secretary of the Board of Overseers,		200.00
Commencement Marshal,		100.00
Secretary for Appointments,		1,500.00
Chairman of the Parietal Board,		400.00
Medical Visitor,		3,000.00
Publication Agent,		2,500.00
Inspector of Grounds and Buildings,		3,500.00
Clerks, Treasurer's office,		3,800.00
Bursar's Assistant,		1,800.00
		45,841.02
Retiring Allowances.		
From Retiring Allowance Fund,	\$18,027.66	
" University income,	4,962.45	22,990.11
Memorial Hall and Sanders Theatre.		
Repairs,	\$2,765.79	
Fire escape,	827.23	
Insurance,	1,352.75	
Fuel, lighting, furniture, cleaning, &c.,	454.99	5,400.76
Payments made from University income on the following accounts:—		
Peabody Museum of American Archaeology and Ethnology (part, see Table XIV, page 112), . .	\$1,268.44	
Semitic Museum (part, see Table XV, page 113), . .	1,590.84	
Germanic Museum (part, see Table XVI, page 114), . .	865.48	
William Hayes Fogg Art Museum (part, see Table XVII, page 114),	2,816.99	
Appleton Chapel (part, see Table XIX, page 116), . .	6,425.20	
Phillips Brooks House (part, see Table XX, page 117),	2,123.00	15,084.95
Amount carried forward,		\$109,084.55

TABLE NO. I, THE UNIVERSITY, CONTINUED.

PAYMENTS.

Amount brought forward,	\$109,084.55
General Expenses.	
Repairs and improvements,	\$1,916.40
Labor,	6,811.33
Watering streets and driveways,	292.98
Advertising,	113.84
Watchmen,	2,396.98
Commencement Day expenses,	680.86
Expenses of Medical Visitor,	160.56
Annual Catalogue,	2,485.86
Quinquennial Catalogue,	4,028.51
Calendar,	223.10
Plank walks,	100.00
Driveways and gravel walks,	41.97
Sidewalk assessment,	356.59
Sewer assessment,	710.77
Fence expenses,	52.00
Diplomas,	6.60
Receptions,	380.65
Expenses on portraits,	194.19
Photographs,	40.70
Setting bust of President Walker,	94.05
Conference, Association of American Universities, .	32.50
Mercantile agency,	925.00
Taxes on Harvard Union,	\$4,564.50
Less repaid by Harvard Union,	4,564.50
St. Louis Exposition expenses,	1,316.71
Freight, supplies, and sundries,	568.16
	23,980.36
	<u>\$183,014.81</u>

TABLE NO. II.
THE COLLEGE.

RECEIPTS.

Gifts for Capital Account.

Philo Sherman Bennett Prize Fund, . . .	\$400.00
Daniel A. Buckley Fund,	55,886.53
Walter Channing Cabot Fund,	50,000.00
Francis James Child Memorial Fund (addi- tional),	50.00
Class Subscription Fund (additional),	173.50
Class of 1880 Fund,	100,000.00
Amount carried forward,	<u>\$206,509.03</u>

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amount brought forward,	\$206,509.02	
Gifts for Capital Account (<i>continued</i>).		
Edward W. Codman Fund,	321,861.90	
George H. Emerson Scholarship Fund, . .	5,862.76	
Lloyd McKim Garrison Prize and Medal Fund, .	2,700.00	
Edwin A. W. Harlow Fund,	1,607.57	
Edward William Hooper Fellowship Fund, .	25,000.00	
Francis Greenwood Peabody Endowment, .	100,000.00	
The Philadelphia Scholarship Fund (additional), .	550.00	
William M. Spackman Fund,	2,500.00	
Teachers' Endowment Fund,	786,225.28	
Jerome Wheelock Fund (additional), . . .	10.00	
Charles Wyman Scholarship Fund,	10,000.00	\$1,412,326.53
Income of Funds for Instruction, and Gifts for Salaries.		
Alford Professorship,	\$1,865.25	
John B. Barringer,	1,509.80	
Boylston Professorship,	1,394.18	
Walter Channing Cabot,	717.48	
Class of 1880,	409.98	
Class Subscription,	7,402.24	
Paul Dudley,	173.43	
Eaton Professorship,	5,049.10	
Eliot Professorship,	1,063.65	
Eliot " (Jon. Phillips' Gift), . .	350.00	
Calvin and Lucy Ellis Aid (part),	3,895.41	
Erving Professorship,	172.20	
Fisher "	1,770.76	
Henry Flynt,	20.37	
Fund for Permanent Tutors,	799.01	
Godkin Lecture,	630.40	
Gospel Church ($\frac{1}{2}$ income),	163.02	
Asa Gray Professorship,	1,055.39	
Gurney (part),	8,630.36	
Hersey Professorship ($\frac{1}{2}$ income),	596.81	
Hollis " (Divinity),	1,698.28	
Hollis " (Mathematics),	184.35	
Ingersoll Lecture (part),	235.38	
Abbott Lawrence,	3,027.57	
James Lawrence,	2,478.45	
Lectures on Political Economy,	524.73	
Henry Lee Professorship,	5,363.39	
Thos. Lee, for Hersey Professorship,	1,069.80	
Thos. Lee, for Reading,	777.21	
Arthur T. Lyman,	1,279.25	
McLean Professorship,	2,118.70	
Amounts carried forward,	\$55,925.94	\$1,412,326.53

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward,		\$55,925.94	\$1,412,326.58
Income of Funds for Instruction, and Gifts for Salaries			
<i>(continued).</i>			
William Belden Noble Lectures.			
Interest,	\$1,166.34		
Sales,	21.37	1,187.71	
Daniel H. Peirce,		698.49	
Perkins Professorship,		1,038.20	
Plummer "		1,230.98	
Pope "		2,588.00	
Professorship of Engineering,		2,007.66	
Professorship of Hygiene (part),		8,003.45	
Nelson Robinson Jr. (part),		11,674.22	
Arthur Rotch,		1,230.00	
Rumford Professorship,		2,773.36	
Gurdon Saltonstall,		2,952.00	
Smith Professorship,		1,188.49	
Josiah Stickney,		653.57	
Teachers' Endowment,		4,080.27	
Unknown Memorial (part),		3,178.06	
Wales Professorship (part),		1,500.00	
Henry C. Warren (part),		4,300.00	
Sylvester Waterhouse,		288.36	
David Ames Wells (part),		4,000.00	
Jerome Wheelock, . . . . .		.84	
Gifts for salaries and lectures,		3,037.00	113,426.60
Income of Funds for General Purposes.			
J. W. P. Abbot (accumulating),	\$482.65		
John A. Blanchard,	51.66		
Edward W. Codman,	4,342.89		
Charles L. Hancock (part),	324.10		
Jonathan Phillips,	1,549.80		
William M. Spackman,	51.27		6,801.87
Income of Fellowship Funds, and Gifts for Fellowships.			
Julia Amory Appleton (gift),	\$1,000.00		
Edward Austin (part),	2,000.00		
Austin Teaching (part),	15,000.00		
Cercle Français de l'Université Harvard (gift),	500.00		
George W. Dillaway,	260.27		
Ozias Goodwin Memorial,	556.80		
Harris,	534.36		
Edward William Hooper,	409.98		
John Thornton Kirkland,	544.30		
Henry Lee Memorial,	566.34		
Amounts carried forward,		\$21,372.05	\$1,532,555.00

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward,		\$21,372.05	\$1,532,555.00
Income of Fellowship Funds, and Gifts for Fellowships			
<i>(continued).</i>			
Charles Eliot Norton,	600.00		
Robert Treat Paine,	632.56		
John Parker,	2,821.72		
Nelson Robinson Jr. (part),	1,000.00		
Rogers,	1,597.97		
Henry Bromfield Rogers Memorial, . . .	569.19		
South End House (gifts),	370.00		
John Tyndall,	581.74		
James Walker,	552.47		
Whiting,	1,186.18		
			81,283.88
Income of Scholarship Funds, and Gifts for Scholarships.			
Abbot,	\$186.03		
Alford (accumulating),	101.99		
Austin (part), Architecture,	600.00		
Austin (part), Landscape Architecture,	300.00		
Austin (part), for Teachers,	2,540.68		
Bartlett,	264.94		
Bassett,	280.54		
Bigelow,	644.82		
Borden (accumulating),	127.38		
Bowditch,	5,596.06		
Bright,	1,385.47		
Browne,	191.58		
Morey Willard Buckminster,	258.45		
Burr,	1,651.35		
Ruluff Sterling Choate,	301.89		
Class of 1802,	410.48		
“ 1814,	158.08		
“ 1815 (Kirkland),	328.11		
“ 1817,	228.48		
“ 1828,	174.86		
“ 1835,	247.33		
“ 1841,	253.43		
“ 1852 (Dana),	253.38		
“ 1856,	776.67		
“ 1867,	234.34		
“ 1877,	251.26		
“ 1883,	399.70		
Crowninshield,	594.09		
Warren H. Cudworth (gift),	600.00		
Francis H. Cummings,	282.90		
George and Martha Derby,	277.34		
Amounts carried forward,		\$19,901.58	\$1,563,788.88

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward,	\$19,901.58	\$1,563,788.88
Income of Scholarship Funds, and Gifts for Scholarships		
<i>(continued).</i>		
Julius Dexter,	250.53	
Orlando W. Doe,	138.69	
William Samuel Eliot,	270.55	
George H. Emerson (part),	954.80	
Joseph Eveleth (part),	1,420.10	
Fall River,	107.99	
Farrar,	310.40	
Richard Augustine Gambrill,	564.67	
Charles Haven Goodwin,	377.96	
Benjamin D. Greene,	213.53	
Price Greenleaf (part),	3,000.00	
Harvard Club of Buffalo (gift),	200.00	
" " Chicago "	300.00	
" " Louisiana (gift),	266.30	
" " San Francisco (gift),	300.00	
" " St. Louis "	300.00	
John Appleton Haven,	500.36	
William Hilton (part),	641.98	
Ebenezer Rockwood Hoar,	534.46	
Levina Hoar, for the town of Lincoln,	311.98	
Hodges (part),	293.42	
Hollis,	309.76	
Henry B. Humphrey,	534.90	
Hennen Jennings,	532.29	
C. L. Jones,	1,514.13	
Lawrence Scientific School Association (gift),	150.00	
George Emerson Lowell,	513.30	
Markoe,	256.38	
Matthews ($\frac{1}{2}$ net rents of Hall),	5,217.16	
William Merrick,	303.71	
Morey,	408.80	
Lady Mowlson,	286.54	
Howard Gardner Nichols,	282.65	
Lucy Osgood,	283.39	
George Foster Peabody,	310.18	
Pennoyer,	317.49	
Perkins,	214.46	
Philadelphia,	511.19	
Wendell Phillips,	75.47	
Ricardo Prize (gift),	350.00	
Rodger,	57.27	
Henry Bromfield Rogers,	172.20	
Amounts carried forward,	\$43,760.52	\$1,563,788.88

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward,		\$43,760.52	\$1,563,788.88
Income of Scholarship Funds, and Gifts for Scholarships			
<i>(continued).</i>			
Edward Russell,	288.15		
Sales,	277.89		
Saltonstall,	551.63		
Leverett Saltonstall,	430.86		
Mary Saltonstall,	840.66		
Savage (part),	300.00		
Sever,	162.26		
Sewall,	542.92		
Shattuck,	2,424.23		
Slade,	302.63		
Dunlap Smith,	208.80		
Story,	231.99		
Stoughton, Use of pasture,	\$100.00		
Interest (part),	62.69	162.69	
Swift,	173.92		
Thayer,	3,887.24		
Gorham Thomas,	209.40		
Toppan,	379.09		
Townsend,	1,260.21		
Walcott,	243.34		
Christopher M. Weld,	522.31		
Jacob Wendell,	269.23		
Whiting,	579.28		
Josiah Dwight Whitney,	246.00		
Mary L. Whitney,	524.24		
Charles Wyman,	123.00		
Anonymous Gift for Scholarship use,	100.00	58,471.48	
Income of Beneficiary and Loan Funds, and Repayments.			
Rebecca C. Ames,	\$2,485.78		
Nathaniel Appleton,	23.34		
Edward Austin.			
Interest (part),	\$881.47		
Loans repaid by Special Students,	384.62	1,266.09	
Edward Austin Loans (L. S. S.), repayments,		938.04	
Frank Bolles Memorial,		89.25	
William Brattle,		77.64	
Daniel A. Buckley,		2,625.10	
Thomas Danforth,		50.58	
Moses Day,		268.09	
Calvin and Lucy Ellis Aid (part),		2,902.13	
John Ellery,		20.22	
Exhibitions,		65.58	
Amounts carried forward,		\$10,816.79	\$1,622,260.36

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward, . . .		\$10,816.79	\$1,622,260.86
Income of Beneficiary and Loan Funds, and Repayments			
<i>(continued).</i>			
Thomas Fitch,	37.98		
Ephraim Flynt,	21.80		
Henry Flynt,	7.58		
Henry Gibbs,	22.68		
John Glover,	150.16		
Price Greenleaf Aid (balance).			
Interest (part),	\$16,723.14		
Repayment,	125.00	16,848.14	
Edwin A. W. Harlow,	16.98		
Edward Holyoke,	17.66		
Robert Keayne,	120.10		
Bertram Kimball,	1,230.00		
Lawrence Scientific School Loans, repayments,	1,034.20		
Mary Lindall,	49.69		
Susan B. Lyman,	294.66		
Anne Mills,	10.63		
Munroe (part),	526.62		
Palfrey Exhibition,	100.32		
Dr. Andrew P. Peabody Memorial,	232.37		
Scholarship and Beneficiary Money Returned.			
Loans repaid,	1,435.14		
Joseph Sewall,	10.13		
Alexander W. Thayer (part),	245.90		
Quincy Tufts,	548.83		
Benjamin Wadsworth,	13.68		
Samuel Ward (part),	28.97		
Stuart Wadsworth Wheeler.			
Interest,	\$276.26		
Loans repaid,	108.52	384.78	34,205.74
Income of Prize Funds, and gifts for prizes.			
Anonymous, English 18 (gift),	\$25.00		
Jeremy Belknap (gift),	50.00		
James Gordon Bennett,	74.98		
Philo Sherman Bennett,	2.46		
Francis Boott,	498.59		
Bowdoin Prizes for Dissertations,	1,517.13		
Boylston Prizes for Elocution,	168.12		
Coolidge Debating,	260.17		
Lloyd McKim Garrison,	88.56		
Edward Hopkins Gift for "Deturs."			
From Trustees,	\$207.25		
Interest on unexpended balance,	88.71	295.96	
Amounts carried forward,	\$2,980.97	\$1,656,466.10	

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward, . . .		\$2,980.97	\$1,656,466.10
Income of Prize Funds, etc. (continued).			
Sales,	53.09		
John O. Sargent,	126.80		
George B. Sohler (part),	250.00		
Charles Sumner,	174.46		
Robert N. Toppan,	183.27		
Philip Washburn,	106.81		
David Ames Wells (part),	1,885.04		5,259.94
Income of Sundry Funds for Special Purposes.			
Botanic Department, $\frac{1}{4}$ for Cryptogamic Herbarium,	\$489.29		
" " $\frac{1}{4}$ for Laboratories of Botany,	244.65		
Francis James Child Memorial,	556.75		
Classical Publication Fund of the Class of 1856.			
Interest,	\$349.57		
Sales,	206.20	555.77	
George A. Gardner,	277.24		
George Silsbee and Ellen Sever Hale,	247.97		
Harvard Oriental Series,	788.00		
Ingersoll Lecture (part),	61.00		
Musical Department,	51.61		
Francis Greenwood Peabody,	620.02		
Nelson Robinson Jr. (part),	7,682.28		
George W. Sawin,	223.22		
John E. Thayer,	810.08		
Elizabeth Torrey,	54.46		
Henry Warren Torrey. Interest,	\$554.24		
Sales,	136.68	690.87	
Unknown Memorial (part),	1,800.00		
Cyrus M. Warren,	816.21		
Henry C. Warren (part),	1,620.58		
Chauncey Wright,	50.53		17,290.53
Sundry Gifts.			
For the Department of Architecture.			
Gifts for equipment, interest,	\$116.89		
Gift for a painting, interest,	20.21		
For the Department of The Classics.			
Gifts for books,	200.00		
" the Museum of Classical Archaeology,	200.00		
For the Department of French, for books,	155.01		
For the Department of Geology and Geography.			
Gifts for a meteorological observatory,	200.00		
" collection of deep sea deposits,	100.00		
For the Department of Landscape Architecture.			
Gift for expenses,	5.40		
For the Department of Mathematics, for books,	15.00		
Amounts carried forward,		\$1,012.51	\$1,879,016.57

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward,	\$1,012.51	\$1,679,016.57
Sundry Gifts (<i>continued</i>).		
For the Department of Mining and Metallurgy.		
Gift for expenses,	350.00	
For Semitic Library. Interest,	14.87	
For Bermuda Biological Station.		
Gifts,	\$1,200.00	
Interest,	21.11	1,221.11
For extra copies of contributions from the Zoölog- ical Laboratory,	50.00	
For Engineering Camp at Squam Lake,	1,000.00	
For special use in connection with the Summer Camp at Squam Lake,	50.00	
For certain exhibits at the St. Louis Exposition, for the Mineralogical Museum,	100.00	
For the School for Social Workers.		
Gifts,	\$6,000.00	
Interest,	67.37	6,067.37
For the Ethics of the Social Questions.		
Gift,	\$5,000.00	
Interest,	80.24	5,080.24
For furnishings of the Department of Social Ethics in Emerson Hall.		
Gift,	\$13,000.00	
Interest,	14.25	13,014.25
For furnishing Emerson Hall.		
Gift,	\$20,000.00	
Interest,	400.77	20,400.77
For equipment of the Psychological Laboratory.		
Gift,	\$2,500.00	
Interest,	43.84	2,543.84
For alterations in the N. C. Nash Botanical Lecture Room,	2,186.34	
For improvements in Hollis and Stoughton Halls,	8,300.00	
For evening use of Warren House libraries, . .	20.00	
For Plantations in the College Yard. Interest, .	68.51	
Unrestricted gift,	600.00	62,079.31
Receipts from Students.		
Tuition fees, regular courses,	\$418,588.28	
" " Summer Schools,	21,988.75	
" " School for Social Workers,	240.00	\$435,767.03
Examination fees.		
Admission,	\$4,270.00	
Condition,	528.00	
Doctor of Philosophy,	30.00	4,828.00
Amounts carried forward,	\$440,595.03	\$1,741,095.88

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward, . . .		\$440,595.08	\$1,741,095.88
Receipts from Students (<i>continued</i>).			
Graduation fees,		8,940.00	
Laboratory fees.			
Astronomy,	\$105.00		
Botany,	1,717.50		
Chemistry,	14,525.00		
Engineering,	2,980.50		
Engineering, Squam Lake, . . .	2,145.49		
Geology,	1,632.50		
Hygiene,	1,550.00		
Mineralogy,	525.00		
Mining and Metallurgy,	3,456.81		
Philosophy,	90.00		
Physics,	5,869.00		
Zoölogy,	1,905.00	85,951.80	
College dormitories,	\$97,833.51		
Less the following items:—			
Receipts from dormitories belonging to University Houses and Lands ac- count,		\$19,380.84	
One-half net income from Matthews Hall, credited under income of Scholar- ship Funds, &c., . . .	5,080.98	24,411.77	73,421.74
Summer School excursions, surplus,		49.48	558,958.05
Sundries.			
Use of rooms by College Society,		\$175.00	
Sale of tickets to Commencement Lunch,		628.50	
" hymn books,		119.07	
" Annals of Mathematics,		345.32	
" Hand-book of American History,		261.00	
" Elementary Exercises in Physics,		268.00	
" Harvard Psychological Review,		78.40	
" History I publications,		453.27	
" publications for the Department of the Classics,		368.04	
" publications for the Sanskrit Department,		81.83	
" other publications,		1,270.57	
" old examination papers,		359.02	
Sundry receipts at the Engineering Camp at Squam Lake,		15,213.46	
Pasturage, Squam Lake,		60.00	
Interest on bank deposit, Squam Lake account, .		44.81	
" account of tuition fees paid in advance,		4,149.04	
Insurance awards,		5,542.48	29,812.80
			<u>\$2,829,866.73</u>

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

From Fellowship Funds and Gifts.

Julia Amory Appleton,	\$1,000.00	
Edward Austin,	2,000.00	
Austin, Teaching,	15,000.00	
Cercle Français de l'Université Harvard, . . .	600.00	
George W. Dillaway,	300.00	
Ozias Goodwin Memorial,	350.00	
Harris,	250.00	
John Thornton Kirkland,	675.00	
Henry Lee Memorial,	225.00	
Charles Eliot Norton,	300.00	
Robert Treat Paine,	500.00	
John Parker,	1,225.00	
Nelson Robinson Jr.,	1,000.00	
Rogers,	1,812.50	
Henry Bromfield Rogers Memorial, . . .	450.00	
South End House,	325.00	
John Tyndall,	500.00	
James Walker,	500.00	
Whiting,	1,000.00	\$28,012.50

From Scholarship Funds and Gifts.

Abbot,	\$150.00	
Austin, Architecture,	600.00	
Austin, Landscape Architecture,	300.00	
Austin, for Teachers,	2,540.68	
Bartlett,	250.00	
Bassett,	300.00	
Bigelow,	400.00	
Bowditch,	4,983.34	
Bright,	1,000.00	
Browne,	200.00	
Morey Willard Buckminster,	200.00	
Burr,	1,253.32	
Ruluff Sterling Choate,	275.00	
Class of 1802,	325.00	
“ 1814,	75.00	
“ 1815 (Kirkland),	333.34	
“ 1817,	233.34	
“ 1828,	200.00	
“ 1835,	233.34	
“ 1841,	200.00	
“ 1852 (Dana),	200.00	
“ 1856,	600.00	
“ 1867,	175.00	

Amounts carried forward, \$15,027.36 \$28,012.50

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amounts brought forward, . . .		\$15,027.36	\$28,012.50
From Scholarship Funds and Gifts (<i>continued</i>).			
Class of 1877,	120.00		
" 1883,	66.67		
Crowninshield,	435.00		
Warren H. Cudworth,	700.00		
Francis H. Cummings,	200.00		
George and Martha Derby,	338.34		
Julius Dexter,	175.00		
O. W. Doe,	100.00		
Department of Education,	500.00		
William Samuel Eliot,	250.00		
George H. Emerson,	825.00		
Joseph Eveleth,	1,020.00		
Fall River,	106.66		
Farrar,	250.00		
Richard Augustine Gambrill,	450.00		
Charles Haven Goodwin,	300.00		
Benjamin D. Greene,	200.00		
Price Greenleaf,	2,880.00		
Harvard Club of Buffalo,	186.66		
" " Chicago,	300.00		
" " Louisiana,	266.80		
" " San Francisco,	300.00		
" " St. Louis,	300.00		
John Appleton Haven,	240.00		
Hilton,	435.00		
Ebenezer Rockwood Hoar,	466.66		
Levina Hoar, for the town of Lincoln,	150.00		
Hodges,	250.00		
Hollis,	225.00		
Henry B. Humphrey,	450.00		
Hennen Jennings,	400.00		
C. L. Jones,	1,200.00		
Lawrence Scientific School Association,	300.00		
George Emerson Lowell,	400.00		
Markoe,	150.00		
Matthews,	4,700.00		
William Merrick,	225.00		
Morey,	325.00		
Lady Mowison,	225.00		
Howard Gardner Nichols,	266.66		
George Foster Peabody,	250.00		
Pennoyer,	45.00		
Rebecca A. Perkins,	150.00		
Amounts carried forward, . . .		\$36,145.31	\$28,012.50

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.			
Amounts brought forward, . . .		\$36,145.31	\$28,012.50
From Scholarship Funds and Gifts (<i>continued</i>).			
Philadelphia,	400.00		
Wendell Phillips Memorial,	50.00		
Ricardo Prize,	350.00		
Henry Bromfield Rogers,	150.00		
Edward Russell,	225.00		
Sales,	233.34		
Saltonstall,	425.00		
Leverett Saltonstall,	325.00		
Mary Saltonstall,	300.00		
Savage,	300.00		
Sever,	200.00		
Sewall,	400.00		
Shattuck,	2,100.00		
Slade,	333.34		
Dunlap Smith,	266.66		
Story,	175.00		
Thayer,	3,100.00		
Gorham Thomas,	150.00		
Toppan,	300.00		
Townsend,	1,000.00		
Walcott,	100.00		
Christopher M. Weld,	400.00		
Jacob Wendell,	400.00		
Whiting,	525.00		
Josiah Dwight Whitney,	200.00		
Mary L. Whitney,	300.00		
University, Graduate School,	1,550.00		
" Lawrence Scientific School, . . .	1,250.00		
Normal, " " "	600.00		
			52,253.65
From Beneficiary and Loan Funds.			
Rebecca C. Ames,	\$1,431.84		
Edward Austin.			
Loans to L. S. S. students, . . .	\$2,633.00		
" Special " . . .	672.30	3,305.30	
Edward Austin Loans (L.S.S.), from repay-			
ments,	440.00		
William Brattle,	77.64		
Moses Day,	268.09		
Calvin and Lucy Ellis Aid.			
Beneficiaries,	\$2,890.13		
Genealogical expenses,	12.00	2,902.13	
Amounts carried forward,	\$8,425.00	\$80,266.15	

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amounts brought forward,	\$8,425.00	\$90,266.15
From Beneficiary and Loan Funds (<i>continued</i>).		
Exhibitions,	65.58	
Price Greenleaf Aid,	16,549.46	
Edward Holyoke,	16.36	
Robert Keayne,	120.10	
Bertram Kimball,	1,192.50	
Lawrence Scientific School Loans Repaid, . .	867.28	
Mary Lindall,	3.14	
Munroe,	526.62	
Palfrey Exhibition,	80.00	
Dr. Andrew P. Peabody Memorial,	70.00	
Quincy Tufts,	548.88	
Stuart Wadsworth Wheeler,	200.00	
Samuel Ward, special food for sick students, .	28.97	
Scholarship and Beneficiary money returned, . .	1,634.00	30,327.79
From Prize Funds.		
Anonymous, English 18,	\$35.00	
Francis Boott.		
Prize,	\$100.00	
Performance and expenses,	212.00	312.00
Bowdoin Prizes for Dissertations.		
Prizes,	\$1,200.00	
Expenses,	46.80	1,246.80
Boylston Prizes for Elocution,	255.00	
Coolidge Debating,	200.00	
Lloyd McKim Garrison,	100.00	
Edward Hopkins Gift for "Deturs," . . .	253.67	
Sales,	45.00	
George B. Schier,	250.00	
Charles Sumner,	100.00	
Philip Washburn,	75.00	2,862.47
From Sundry Funds for Special Purposes.		
Francis James Child Memorial, books, . .	\$449.77	
Classical Publication Fund of the Class of 1856.		
Harvard Studies in Classical Philol., \$715.64		
Interest on advances,	58.86	774.50
George A. Gardner, photographs, etc., for De-		
partment of Geology,	144.65	
Harvard Oriental Series, publications,	675.00	
Ingersoll Lecture, printing,	61.00	
George W. Sawin, books for Department of		
Mathematics,	128.96	
Amounts carried forward,	\$2,233.88	\$118,456.41

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.		
Amounts brought forward,	\$2,283.88	\$118,456.41
From Sundry Funds for Special Purposes (<i>continued</i>).		
Barthold Schlesinger, books for Department of German,	18.05	
John E. Thayer, Quarterly Journal of Economics,	682.30	
Elizabeth Torrey, books for Department of History,	146.86	
Henry Warren Torrey, publications, . . .	701.60	
Unknown Memorial, services and expenses, . . .	1,119.08	
Cyrus M. Warren, research in Chemistry, . .	258.65	
Chauncey Wright, books for Department of Mathematics,	1.93	
Henry C. Warren, publications,	1,957.98	
Nelson Robinson Jr.		
Expenses of Nelson Robinson Jr.		
Hall,	\$5,801.36	
Expenses in Department of Architecture,	1,880.92	7,682.28
		14,792.11
Payments made from College income on the following accounts:—		
Museum of Comparative Zoölogy (part, see Table XIII, page 111),	\$4,080.89	
Jefferson Physical Laboratory (part, see Table XVIII, page 115),	690.22	
Hemenway Gymnasium (part, see Table XXI, page 118),	7,369.59	12,140.70
Summer Schools.		
Salaries,	\$16,763.33	
Secretary,	600.00	
Clerical services,	100.00	
Repairs and improvements,	81.69	
Care and cleaning,	62.90	
Fuel,	14.00	
Water,	28.08	
Lighting,	27.10	
Printing,	943.93	
Stationery and postage,	147.41	
Binding,	2.35	
Advertising,	800.49	
Services and wages,	459.02	
Remission of fees for instruction,	150.00	
Geological and Geographical courses, travelling expenses,	121.62	
Reception,	143.50	
Amounts carried forward,	\$20,445.42	\$140,889.22

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amounts brought forward,		\$20,445.42	\$140,889.22
Summer Schools (continued).			
Music,		128.00	
Travelling expenses,		41.60	
Restaurant expenses, deficit,		25.42	
Supplies, materials, and sundries,		200.58	20,840.97
From Special Gifts.			
For Department of Architecture, books, casts, &c.,		\$2,228.20	
“ “ Chemistry, books and improve- ments,		178.21	
“ “ The Classics, books,		426.75	
“ “ Education, books,		107.59	
“ “ French, books,		7.48	
“ “ Geology and Geography. Equipment of exhibition rooms,		100.00	
Meteorological observatory, .		200.00	
“ “ History and Government, books,		1.50	
“ “ Landscape Architecture, . . .		.79	
“ “ Mathematics, subscription for “Transactions,”		100.00	
“ “ Political Economy. Books and material,		83.97	
Maps and charts,		76.16	
“ “ Sanskrit, postage,		1.78	
“ Lowell Memorial Library, books,		11.83	
“ Semitic Library, books,		265.89	
“ Bermuda Biological Station,		560.02	
“ extra copies of contributions from the Zoölogi- cal Laboratory,		50.00	
“ School for Social Workers, . . . \$2,850.20			
Less charged to College salaries, 1,750.00		600.20	
“ Social Questions Library, books,		305.10	
“ The Ethics of the Social Questions. Sundry expenses, \$3,939.62			
Less charged to College salaries, 400.00		3,539.62	
“ Equipment of the Psychological Laboratory,		201.76	
“ Equipment for the course in Forestry, . . .		181.82	
“ Research in Experimental Phonetics, . . .		23.18	
“ Furnishing Emerson Hall,		352.06	
“ Plantations in the College Yard,		247.91	9,796.22
Appropriations for collections, laboratories, &c.			
Anthropology (Prof. F. W. Putnam),		\$100.00	
Botany (Prof. Thaxter),		100.00	
Chemistry (Prof. Sanger),		250.00	
Amounts carried forward,		\$450.00	\$171,026.41

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amounts brought forward,	\$450.00	\$171,026.41
Appropriations for collections, laboratories, &c. (continued).		
Geology and Geography (Asst. Prof. Woodworth),	125.00	
Mineralogy (Prof. Wolff),	112.80	
Mineralogy and Petrography (Prof. Wolff), . . .	700.00	
Music (Prof. Paine),	125.00	
Physics (Prof. Trowbridge),	500.00	
Psychology (Prof. Münsterberg),	150.00	
“ for publications,	78.40	
Zoölogy (Prof. Mark),	200.00	
“ for reprints,	50.00	
Laboratory fees appropriated,	80,825.81	
Division of Mathematics,	189.48	
Casts and impressions of Latin inscriptions (Prof. M. Warren),	50.00	
History, for books,	120.46	33,126.90
Salaries.		
Instruction,	\$408,887.99	
Deans,	4,875.00	
Chairmen of Committees,	800.00	
Recorders and Secretaries,	6,900.00	
Examination Proctors,	1,404.60	422,867.59
For College Public Buildings which are not valued in the Treasurer's books, the expenses of which are not separately entered in this table.		
Repairs, improvements, &c.,	\$17,915.41	
Care and cleaning,	12,014.75	
Fuel,	5,943.84	
Water,	344.57	
Lighting,	2,101.62	
Insurance,	496.08	
Electric power,	618.55	
Supplies and sundries,	508.28	
Telephones,	75.26	40,013.86
For College Dormitories, which are not valued in the Treasurer's books.		
Repairs and improvements,	\$23,068.63	
Care and cleaning,	14,718.98	
Fuel,	2,845.65	
Water,	1,280.66	
Lighting,	3,781.05	
Insurance,	326.51	
Supplies and sundries,	306.82	
Furnishing rooms in Conant Hall,	1,680.70	
Fire escapes,	630.79	48,639.79
Amount carried forward,		\$715,674.05

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amount brought forward, \$715,674.05

General Expenses.

Deans and Chairmen of Committees, clerical and office expenses,	\$15,988.56	
Reading examination books,	3,510.48	
Services of proctors,	1,454.96	
" assistants to instructors,	4,621.50	
" undergraduates,	1,291.08	
" Head Guide in College grounds,	26.25	
Attendants in department laboratories,	1,540.00	
Admission examinations,	2,708.92	
Pews hired in Cambridge churches,	196.88	
Commencement Lunch,	781.12	
Printing office, expenses,	\$24,429.46	
Less receipts,	14,428.77	10,006.69
Text books, Forestry,	11.05	
Annals of Mathematics,	839.51	
Syllabus in History 1a,	50.00	
Map of Europe,	105.97	
Telephones,	21.46	
Furniture,	418.49	
Advertising,	825.82	
Watchmen,	1,248.07	
Legal expenses,	89.41	
Music, Class-Day,	125.00	
Receptions,	61.70	
Use of Grays 18 by English department,	100.00	
Services and expenses at Faculty meetings, . . .	70.61	
" for Regent,	18.40	
" on records of former students,	50.00	
Blank books for examinations,	689.29	
Expenses of camp at Squam Lake (Engineering),	17,534.76	
Engineering courses in Pierce Hall,	6,701.09	
Travelling expenses in Mining 12,	40.37	
" in Economics 18,	56.55	
" in Forestry courses,	22.50	
Expenses of delegates,	52.68	
Association of American Universities,	25.00	
College Entrance Examination Board,	300.00	
Diplomas,	989.29	
Maps,	31.40	
Lighting College Yard,	182.50	
Rent and moving of pianos,	69.50	
Freight, and sundries,	115.40	72,956.21
		\$788,680.26

TABLE NO. III.
THE LIBRARY.

RECEIPTS.

Gifts for Capital Account.

Charles Eliot Norton Fund,	\$8,500.00	
Income of Book Funds, and Gifts and Receipts for the purchase of books.		
Nathaniel I. Bowditch,	\$105.09	
Bright ($\frac{1}{4}$ income of the Bright Legacy), . . .	1,280.00	
Edwin Conant ($\frac{1}{4}$ income),	841.84	
Constantius ($\frac{1}{4}$ income),	638.18	
Denny,	261.45	
Eliza Farrar,	263.07	
Price Greenleaf (part),	1,000.00	
Horace A. Haven,	180.54	
Francis B. Hayes,	494.71	
George Hayward,	260.31	
Thomas Hollis,	115.18	
Sidney Homer,	107.81	
Jarvis,	25.44	
Frederick A. Lane,	259.28	
Lowell,	1,308.41	
Charles Minot,	2,981.86	
Charles Eliot Norton,	34.83	
Lucy Osgood,	351.63	
Mary Osgood,	345.09	
Henry L. Pierce,	2,488.03	
Francis Sales,	194.34	
Stephen Salisbury,	261.70	
Sever,	1,001.56	
Samuel Shapleigh,	194.24	
George B. Sohler (part),	94.40	
Subscription for Library,	516.25	
Charles Sumner,	1,845.84	
Kenneth Matheson Taylor,	252.99	
Daniel Treadwell ($\frac{1}{4}$ income),	300.81	
Ichabod Tucker,	214.02	
Henry W. Wales (part),	168.71	
James Walker,	783.85	
Thomas W. Ward,	260.17	
Executors of Robert Waterston (balance), . .	13.88	
J. Huntington Wolcott,	989.12	
Gifts for books,	8,380.57	
Sale of duplicate books,	258.26	
Received for books lost,	73.20	
Fines,	835.88	\$24,451.49
Amount carried forward,		\$82,951.49

TABLE NO. III, THE LIBRARY, CONTINUED.

RECEIPTS.

Amount brought forward,	\$32,951.49	
Income of R. M. Hodges Fund (part), for publishing Bibliographical Contributions,		878.01
Income of Funds for general purposes.		
Daniel Austin,	\$306.52	
Edwin Conant ($\frac{1}{4}$ income),	1,025.53	
Constantius ($\frac{1}{4}$ income),	638.12	
Fund of the Class of 1851,	31.54	
" " " " (C. F. Dunbar's Gift),	31.09	
Price Greenleaf (part),	15,738.15	
Henry T. Morgan,	4,031.99	
Henry L. Pierce (part),	2,460.00	
James Savage ($\frac{1}{4}$ income),	1,324.80	
Daniel Treadwell ($\frac{1}{4}$ income),	300.81	
Eben Wright,	4,920.00	30,793.55
Fees for use of Library,	\$85.00	
Sale of Index Subject Catalogues,	1.00	
" Bibliographical Contributions,	18.51	
Gifts for services,	1,041.00	1,140.51
		<u>\$65,263.56</u>

PAYMENTS.

For Books, from the following Funds, Gifts, etc.	
Bowditch,	\$128.05
Bright,	1,187.65
Conant,	336.59
Constantius,	611.44
Denny,	251.48
Farrar,	184.58
Price Greenleaf,	1,178.54
Haven,	115.44
Hayes,	392.49
Hayward,	271.55
Hollis,	66.62
Homer,	188.35
Jarvis,	39.87
Lane,	241.35
Lowell,	896.15
Minot,	3,182.87
Lucy Osgood,	301.71
Mary Osgood,	276.29
Pierce,	2,104.65
Sales,	233.51
Salisbury,	222.92
Sever,	1,206.56
Amount carried forward,	\$13,568.66

TABLE NO. III, THE LIBRARY, CONTINUED.

PAYMENTS.

Amount brought forward,	\$13,568.66	
For Books, from the following Funds, etc. (<i>continued</i>).		
Shapleigh,	183.50	
Sohier,	35.24	
Subscription Fund,	460.84	
Sumner,	1,678.71	
Taylor,	236.41	
Daniel Treadwell,	364.96	
Tucker,	221.38	
Wales,	1.16	
Walker,	684.04	
Ward,	411.75	
J. Huntington Wolcott,	1,006.18	
Special Gifts,	2,886.29	
Duplicate money and receipts for lost books, . . .	334.98	
Fines,	373.86	\$22,397.46
Salaries,	\$14,150.00	
Services and wages,	19,588.19	
Services, from special gift,	986.00	
Repairs and improvements,	787.73	
Care and cleaning,	1,147.83	
Fuel,	993.58	
Water,	11.34	
Lighting,	1,254.39	
Printing,	694.64	
Furniture,	437.61	
Stationery and postage,	424.95	
Telephone,	129.04	
Binding,	2,407.70	
Insurance,	21.88	
Electric power,	79.70	
Freight,	159.96	
Supplies and sundries,	857.41	
Maps,	8.25	
Moving books,	38.00	
Care of special reference libraries (\$55 thereof paid from special gift),	1,141.45	45,319.60
		<u>\$67,717.06</u>

TABLE No. IV.
DIVINITY SCHOOL.

RECEIPTS.

Income of Funds for Instruction, or for general purposes.

Divinity School (balance),	\$697.31	
New Endowment,	3,514.21	
Oliver Ames,	836.40	
Hannah C. Andrews,	25.83	
Daniel Austin,	43.79	
Adams Ayer,	49.30	
Joseph Baker,	751.53	
Beneficiary money returned (balance),	8.95	
Bussey Professorship,	1,849.18	
Benjamin Bussey Trust ($\frac{1}{4}$ net income),	2,127.53	
Joshua Clapp,	107.16	
Edwin Conant,	246.00	
Dexter Lectureship,	1,256.76	
Frothingham Professorship,	2,617.59	
Abraham W. Fuller,	51.66	
Lewis Gould,	44.83	
John Hancock Professorship,	\$295.59	
C. L. Hancock (part),	<u>4,704.41</u>	5,000.00
Haven,	246.00	
Samuel Hoar,	51.66	
Henry P. Kidder,	492.00	
Henry Lienow,	451.90	
Caroline Merriam,	51.66	
Parkman Professorship,	787.99	
John W. Quinby,	26.07	
Abby Crocker Richmond,	49.30	
John L. Russell,	49.30	
William B. Spooner,	492.00	
Thomas Tileston of New York Endowment,	1,968.00	
Mary P. Townsend,	258.30	
Winthrop Ward,	103.32	
Winn Professorship,	<u>2,723.02</u>	26,978.24
Interest on account of tuition fees paid in advance,		63.02
Income of Scholarship, Beneficiary and Prize Funds.		
Robert Charles Billings, for prizes,	\$123.49	
Abner W. Buttrick,	650.86	
Thomas Cary,	278.42	
George Chapman,	135.74	
Joshua Clapp,	220.85	
Jackson Foundation,	736.91	
J. Henry Kendall,	<u>268.58</u>	
Amounts carried forward,	\$2,414.80	\$27,041.36

TABLE NO IV, DIVINITY SCHOOL, CONTINUED.

RECEIPTS.

Amounts brought forward, . . .	\$2,414.80	\$27,041.26
Income of Scholarship, etc. (continued).		
Nancy Kendall,	171.06	
William Pomroy,	51.66	2,637.52
Income of Book Funds.		
Rushton Dashwood Burr,	\$208.80	
Louisa J. Hall,	38.82	247.62
Receipts from Students.		
Tuition fees, regular courses,	\$5,520.00	
“ “ Graduate School,	762.23	
“ “ Summer School,	915.00	
Divinity Hall,	2,940.00	
Library fines,	7.60	10,144.88
Gift from Society for Promoting Theological Education,	\$2,124.01	
Sale of tickets to Alumni Dinner,	48.00	
“ Catalogues,	77.50	
“ duplicate books,	2.75	
Insurance premiums repaid,	108.91	2,856.17
		<u>\$42,427.40</u>

PAYMENTS.

From Scholarship Funds.		
Thomas Cary,	\$240.00	
George Chapman,	100.00	
Joshua Clapp,	180.00	
Jackson,	640.00	
J. H. Kendall,	200.00	
Nancy Kendall,	140.00	\$1,500.00
From Beneficiary Funds.		
Abner W. Buttrick,	\$575.00	
William Pomroy,	50.09	625.09
From Robert Charles Billings Fund, prize, . . .		100.00
From Louisa J. Hall Fund, books,		6.05
Salaries for instruction,	\$80,176.72	
Summer School. Salaries for instruction, . . \$1,125.00		
Printing and other expenses,	552.60	1,677.60
Secretary and Librarian,	1,750.00	
Services and wages,	190.90	
Library Assistants,	1,288.33	
Repairs, improvements, and labor,	682.33	
Fire escapes,	38.37	
Care and cleaning,	1,784.95	
Fuel,	677.92	
Water,	100.92	
Amounts carried forward,	\$88,868.04	\$2,281.14

TABLE NO. IV, DIVINITY SCHOOL, CONTINUED.

PAYMENTS.		
Amounts brought forward,	\$38,868.04	\$2,231.14
Lighting,	305.92	
Printing,	431.90	
Furniture,	63.61	
Stationery and postage,	209.93	
Telephone,	28.79	
Books,	610.94	
Binding,	141.25	
Advertising,	468.95	
Diplomas,	3.50	
Alumni dinner,	55.00	
Proportion of expenses of Gymnasium (see Table XXI, page 118),	108.12	
Tuning and repairing organ,	31.86	
American School for Oriental study and research in Palestine (5th payment),	100.00	
Subscriptions to the Fellowship in Christian Archaeology in the American School of Classical Studies in Rome, F. H. Hedge tablet,	25.00	
J. H. Thayer tablet,	200.00	
Sundries,	385.00	
	56.92	41,594.78
		<u>\$43,825.87</u>

TABLE NO. V.
LAW SCHOOL.

RECEIPTS.		
Gift for Capital Account.		
James Barr Ames Loan Fund,		\$500.00
Income of Funds.		
Law School, balance,	\$13,853.60	
James Barr Ames Loan,	22.53	
James Barr Ames Prize,	159.74	
Bemis Professorship,	3,501.17	
Benjamin Bussey Professorship,	1,179.81	
Benjamin Bussey Trust ($\frac{1}{4}$ net income), . . .	2,127.58	
Nathan Dane Professorship,	774.90	
John Foster,	156.02	
Hughes Loan, repayments,	66.17	
Law School Book,	2,813.43	
Law School Library,	4,920.00	
Isaac Royall Professorship,	410.37	
Weld "	4,678.75	
Scholarship Money Returned. Interest, . .	\$96.87	
Repayment,	7.00	108.87
		<u>34,261.94</u>
Amount carried forward,		\$34,761.94

TABLE NO. V, LAW SCHOOL, CONTINUED.

RECEIPTS.

Amount brought forward,	\$84,761.94	
Interest on account of tuition fees paid in advance,	1,112.54	
Tuition fees,	110,900.08	
Sale of books,	51.00	
Received for books lost,	4.00	
Insurance premiums, repaid,	77.17	
	<u>\$146,906.73</u>	

PAYMENTS.

From Beneficiary and Loan Funds.		
Scholarship Money Returned,	\$984.08	
Hughes Loan,	525.92	
Law School Exhibition,	75.00	\$1,585.00
Salaries for instruction,	\$53,983.88	
Librarians and Assistants,	10,791.15	
Secretary,	562.50	
Services of examiners,	60.00	
Services of proctors,	325.25	
Scholarships,	7,900.00	
Repairs and improvements,	676.33	
Care and cleaning,	1,556.38	
Fuel,	850.29	
Water,	57.96	
Lighting,	1,862.02	
Printing,	234.20	
Furniture,	912.46	
Stationery and postage,	674.49	
Telephone,	88.11	
Books,	12,474.98	
Binding,	2,665.00	
Advertising,	140.00	
Insurance,	18.80	
Freight,	515.09	
Proportion of expenses of Gymnasium (see Table XXI, page 118),	1,905.88	
Travelling expenses,	133.29	
Electric power,	50.00	
Catalogue,	240.77	
Quinquennial Catalogue,	2,015.81	
Diplomas,	163.00	
Photographs and etchings,	45.00	
Association of American Law Schools,	10.00	
Sundries,	295.44	101,202.03
		<u>\$102,787.03</u>

TABLE NO. VI.
MEDICAL SCHOOL.

RECEIPTS.

Gifts for Capital Account.		
Anonymous Aid Fund,	\$5,000.00	
F. B. Greenough Fund for Surgical Research (additional),	<u>500.00</u>	\$5,500.00
Income of Funds for Instruction, or for general purposes.		
Medical School, balance,	\$1,496.87	
Edward M. Barringer (part),	805.24	
John B. and Buckminster Brown,	1,050.87	
Calvin and Lucy Ellis (part),	16,783.56	
George Fabyan (part),	5,840.45	
Samuel E. Fitz,	90.38	
Henry Harris ($\frac{1}{2}$ income),	736.50	
Hersey Professorship ($\frac{2}{3}$ income),	397.87	
George Higginson,	5,013.87	
Jackson,	2,174.80	
William O. Moseley,	2,603.86	
New subscription,	1,906.50	
Dr. Ruppner,	459.33	
George C. Shattuck,	3,595.71	
Mary W. Swett,	775.64	
Samuel W. Swett,	984.00	
Quincy Tufts,	98.40	
Henry Willard Williams,	<u>1,753.00</u>	46,565.30
Interest on account of tuition fees paid in advance,		493.22
Income of Fellowship Funds.		
Edward Austin (part) Teaching,	\$3,000.00	
George Cheyne Shattuck Memorial,	264.45	
Charles Eliot Ware "	280.69	
John Ware "	<u>262.24</u>	2,807.38
Income of Scholarship and Aid Funds.		
Anonymous Aid,	\$133.23	
Edward M. Barringer (part),	450.00	
Lucius F. Billings,	253.43	
David Williams Cheever,	284.43	
Cotting Gift,	155.47	
Orlando W. Doe,	188.80	
Joseph Eveleth (part),	600.00	
Lewis and Harriet Hayden,	284.52	
William Hilton (part),	540.00	
C. M. Jones,	<u>316.11</u>	
Amounts carried forward,	\$3,155.99	\$55,365.90

TABLE NO. VI, MEDICAL SCHOOL, CONTINUED.

RECEIPTS.

Amounts brought forward,	\$3,155.99	\$55,365.90
Income of Scholarship and Aid Funds (<i>continued</i>).		
Alfred Hosmer Linder,	265.04	
Joseph Pearson Oliver,	422.83	
Charles B. Porter,	280.98	
Charles Pratt Strong,	233.90	
Isaac Sweetser,	322.21	
John Thomson Taylor,	260.81	
Edward Wigglesworth,	266.17	5,207.48
Income of Prize Funds.		
Ward Nicholas Boylston,	\$185.68	
William H. Thorndike,	351.14	536.82
Income of Sundry Funds and Gifts for special purposes.		
Edward Austin (Bacteriological Laboratory), .	\$545.78	
J. Ingersoll Bowditch,	300.66	
Ward Nicholas Boylston, for Medical Books,	106.37	
Caroline Brewer Croft (part),	2,268.04	
George Fabyan (part),	480.32	
F. B. Greenough (surgical research),	150.99	
Surgical Laboratory,	338.05	
Warren Fund for Anatomical Museum,	690.43	
Medical Library,	90.72	
Gifts for present use,	64.66	5,036.02
Gifts for present use,		13,900.00
Receipts from students.		
Tuition fees, regular courses,	\$49,165.50	
" " graduate courses,	2,207.00	
" " Dental students,	3,600.00	
" " Summer courses,	4,571.50	\$59,544.00
Graduation fees,		2,460.00
Matriculation fees,		330.00
Examination fees,		285.00
Laboratory fees.		
Anatomy,	\$646.00	
Chemistry,	778.58	
Histology,	166.00	
Operative Surgery,	123.00	
Physiology,	316.09	2,029.67
Use of microscopes,	724.75	65,373.42
		<u>\$145,419.59</u>

TABLE NO. VI, MEDICAL SCHOOL, CONTINUED.

PAYMENTS.

From Fellowship Funds.

Edward Austin, Teaching,	\$2,000.00	
George Cheyne Shattuck Memorial,	225.00	
Charles Eliot Ware Memorial,	135.00	
John Ware Memorial,	225.00	\$2,585.00

From Scholarship Funds.

Edward M. Barringer,	\$450.00	
Lucius F. Billings,	200.00	
David Williams Cheever,	250.00	
Cotting Gift,	125.00	
Orlando W. Doe,	100.00	
Joseph Eveleth,	600.00	
John Foster, income for Medical Students (bal.),	150.00	
Lewis and Harriet Hayden,	318.47	
William Hilton,	540.00	
C. M. Jones,	250.00	
Alfred Hosmer Linder,	120.00	
Joseph Pearson Oliver,	325.00	
Charles B. Porter,	200.00	
Charles Pratt Strong,	100.00	
Isaac Sweetser,	350.00	
John Thomson Taylor,	200.00	
Edward Wigglesworth,	200.00	4,478.47

From Prize Fund.

Ward Nicholas Boylston, Prize,	\$150.00	
Advertising,	12.50	162.50

From Sundry Funds and Gifts for special purposes.

Edward Austin (Bacteriological Laboratory), .	\$314.31	
J. Ingersoll Bowditch, Physiology,	148.01	
Ward Nicholas Boylston, Medical Books, . .	376.73	
Caroline Brewer Croft (part), cancer investi-		
gations,	1,192.41	
George Fabyan (part), services,	480.32	
Gifts for Anatomical Research,	539.57	
Gifts for Pathological Department Library,	1,177.67	
Surgical Laboratory,	1,141.71	
Warren Fund for Anatomical Museum,	628.06	
Sundry Gifts,	\$8,986.08	
Less paid for salaries,	6,250.00	2,736.08
		8,734.87

Appropriations.

Anatomy,	\$1,150.00	
Bacteriology,	500.00	
Chemistry,	1,278.92	
Histology and Embryology,	666.00	
Amounts carried forward,	\$3,594.92	\$15,960.84

TABLE NO. VI, MEDICAL SCHOOL, CONTINUED.

PAYMENTS.

Amounts brought forward,		\$3,594.92	\$15,960.84
Appropriations (<i>continued</i>).			
Hygiene,		250.00	
Museum,		200.00	
Obstetrics,		150.00	
Pathology,		800.00	
Pharmacology and Therapeutics,		700.00	
Physiology,		3,629.43	
Surgery,		450.00	9,774.85
Graduate courses, fees repaid to Instructors,		\$2,207.00	
Summer " " " "		4,942.00	7,149.00
Salaries for instruction,			91,508.32
Retiring allowance,			1,000.00
General Expenses.			
Dean, Secretary, and Curator,		\$2,500.00	
Clerical services,		1,729.20	
Repairs and improvements,		830.61	
Care and cleaning,		5,286.31	
Fuel,		2,188.02	
Water,		1,056.00	
Lighting and gas,		3,202.55	
Printing,		469.68	
Furniture,		20.82	
Stationery and postage,		222.16	
Telephone,		230.45	
Advertising and catalogues,		1,300.00	
Insurance,		59.00	
Proctors,		80.00	
Mechanics and laboratory attendants,		7,169.65	
Electric power,		1,009.00	
Diplomas,		145.50	
Time service,		25.00	
Sewer assessment,		528.00	
Legal expenses,		15.00	
Sundries,		472.75	
Supplies and material,		1,302.95	29,842.65
			\$155,235.16

TABLE NO. VI, CONTINUED.
Medical School Undertaking.

RECEIPTS.

Gifts received in 1904-05.

Mrs. Collis P. Huntington, for building, .	\$147,918.00	
J. Pierpont Morgan, for buildings,	486,000.00	
David Sears, for building,	45,000.00	
George C. Shattuck Fund (additional), . .	1,000.00	\$679,918.00

Income of Funds and Gifts.

Robert C. Billings,	\$5,377.66	
George Fabyan (addition of 1908), \$1,808.08*		
George Higginson Professorship, 5,018.87*		
Henry Jackson Endowment,	4,398.26	
Jackson Professorship (addition of 1902), 1,280.00*		
J. Pierpont Morgan Gift,	1,485.69	
Henry L. Pierce,	19,112.88	
Proctor, for the Study of Chronic Diseases, .	2,685.99	
John D. Rockefeller Gift,	52,711.21	
School of Comparative Medicine,	289.16	
Shattuck Professorship (addition of 1902), \$1,279.20*		
James Stillman Professorship,	5,385.87	
Gift for Pathological Laboratory,	268.39	
Real estate,	489.67	92,044.21
Sales of land,		184,383.44
		<u>\$906,340.65</u>

PAYMENTS.

Gift for Pathological Laboratory,		\$59.63
Proctor Fund for the study of Chronic Diseases,		808.98
Real Estate.		
Sewer assessments,	\$2,728.28	
Edgestone assessment,	754.48	
Legal services,	68.00	
Other expenses, surveys and plans,	260.21	3,805.97
Construction Expenses,		1,264,062.85
Interest on Advances,		18,664.83
		<u>\$1,287,401.71</u>

* These items of income are entered in the Medical School table.

TABLE No. VII.
DENTAL SCHOOL.

RECEIPTS.

Income of Funds and Gifts.

Edward Austin Fund (part),	\$500.00	
Dental School, balance,	874.78	
Dental School Endowment,	111.49	
Henry C. Warren Endowment,	1,181.60	
Gifts for new building. Gifts,	\$2,700.00	
Interest,	1,011.85	8,711.85
		<u>\$6,329.67</u>

Interest on tuition fees paid in advance, 162.96

Receipts from students.

Tuition fees,	\$16,244.50	
Less transferred to Medical School,	8,800.00	\$12,644.50
Examination fees,	451.00	
Laboratory fees,	8,985.00	
Use of microscopes,	70.00	
Chemistry, breakage, and supplies,	232.01	
Library fines, . . . . .	.09	17,382.60
Fees from infirmary,		<u>6,189.09</u>
Sale of gold, platinum, and sweepings,	\$217.49	
“ scraps and old materials,	109.04	
“ pamphlets,	4.00	330.58
		<u><u>\$30,394.85</u></u>

PAYMENTS.

Austin Teaching Fellowship, \$500.00

Real Estate.

Paid from accumulated income,	\$20,000.00	
“ Gifts for new building,	15,901.30	85,901.30

Salaries for instruction,	\$10,795.00	
Curator and Librarian,	150.00	
Secretary,	400.00	
Proctors,	55.00	
Repairs and improvements,	564.68	
Care and cleaning,	1,256.45	
Fuel,	148.43	
Water,	68.60	
Lighting,	490.79	
Printing,	233.50	
Furniture,	577.47	
Instruments and apparatus,	392.76	
Stationery and postage,	384.12	
Telephone,	176.56	
Books,	9.50	
Binding,	81.49	
Advertising,	1,008.18	

Amounts carried forward, \$16,792.58 \$36,401.30

TABLE No. VII, DENTAL SCHOOL, CONTINUED.

PAYMENTS.

Amounts brought forward,	\$16,792.53	\$36,401.30
Services and wages,	1,446.76	
Legal expenses,	5.40	
Diplomas,	88.66	
Annual Catalogue,	80.60	
Quinquennial Catalogue,	38.35	
Expenses in getting money for a new building,	52.84	
Supplies, &c.,	6,360.48	
Sundries,	485.64	25,301.26
		<u>\$61,702.56</u>

TABLE No. VIII.

BUSSEY INSTITUTION.

RECEIPTS.

Income of Funds.

Bussey Institution (balance),	\$1,405.45	
Bussey Trust ($\frac{1}{2}$ net income),	4,255.17	\$5,660.62
Tuition fees,		2,355.50
Interest on tuition fees paid in advance,		19.22
Sale of wood, hay, and sundries,	\$87.81	
“ horse,	60.00	
Horticultural Departm't, prizes, sale of flowers, plants, &c.,	1,796.74	
Board of animals,	5,196.84	
Use of houses by College officers,	720.00	7,860.89
		<u>\$15,896.23</u>

PAYMENTS.

Salaries,	\$8,000.00
Services and wages,	2,850.85
Repairs and improvements,	1,968.69
Fuel,	68.50
Lighting,	9.20
Water,	43.40
Printing,	9.20
Furniture,	15.86
Stationery and postage,	9.38
Books,	91.01
Bulletin,	89.52
Binding,	50.15
Advertising,	51.27
Insurance,	204.00
Horticultural Department, expenses,	1,961.56
Grain, farming tools, &c.,	1,799.50
Diplomas, . . . . .	.75
Legal expenses,	6.00
Horse,	62.00
Sundries,	27.79
	<u>\$17,318.58</u>

TABLE No. IX.
ARNOLD ARBORETUM.

RECEIPTS.

Gifts for capital account.

Arnold Arboretum Fund (additional), \$885.00

Income of Funds and Gifts.

Arnold Arboretum, \$6,126.53

James Arnold, 7,876.08

Robert Charles Billings, 668.20

William L. Bradley. Interest, . . \$1,170.47

Gift, 600.00

1,770.47

Bussey, for the Arnold Arboretum, 118.55

Gifts for construction, 391.41

Gift for books, 32.89

16,979.18

Sale of grass and materials, \$1,592.85

Gifts for present use, 2,000.00

" real estate and construction, 84,846.11

" books, 5,000.00

48,488.96

\$61,253.09

PAYMENTS.

From William L. Bradley Fund, bibliography, \$2,272.00

Real estate, from gifts, 20,281.85

Salaries of Director and Assistant, \$3,500.00

Repairs and improvements, 5,018.65

Labor, 6,772.52

Fuel, 322.29

Water, 49.25

Furniture, 24.00

Stationery and postage, 156.65

Books, 11.40

Books from special gifts, 1,752.10

Services and wages, 6,184.15

Supplies, tools, and materials, 619.12

Freight, 136.29

Rent of Glover Estate, 150.00

Expenses of expeditions for collecting, 56.90

Sundries, 78.07

24,826.39

\$47,879.74

TABLE No. X.
BOTANIC GARDEN AND BOTANIC MUSEUM.

RECEIPTS.

Income of Funds.

Botanic Department Fund ($\frac{1}{2}$ income),	\$1,223.24	
Lowell Fund,	3,267.32	
John L. Russell Fund (part),	24.60	
Gift for cases,	27.42	
" sugar cane investigations,	16.97	
Gifts for immediate use,	3,362.00	
Sale of botanical material,	500.00	
Use of house,	700.00	\$9,121.45

PAYMENTS.

From gifts, for cases,		\$80.75
" for sugar-cane investigations,		112.00
Services and wages,	\$797.02	
Labor,	5,070.80	
Care and cleaning,	85.97	
Repairs and improvements,	1,283.59	
Fuel,	915.00	
Water,	169.41	
Furniture,	150.00	
Instruments and apparatus,	154.70	
Stationery and postage,	1.17	
Telephone,	67.90	
Books,	7.68	
Insurance,	37.50	
Taxes,	161.10	
Electric power,	1.26	
Interest on advances,	363.05	
Supplies and sundries,	687.98	9,904.08
		<u>\$10,096.83</u>

TABLE No. XI.
GRAY HERBARIUM.

RECEIPTS.

Income of Funds.

Gray Herbarium (balance),	\$46.25	
Robert C. Billings,	738.00	
Asa Gray Memorial,	1,604.46	
Herbarium,	1,016.27	
John L. Russell (part),	78.80	\$3,478.78
Asa Gray's copyrights,		784.80
Gifts for immediate use,		4,270.00
Received for lost books,		1.30
Amount carried forward,		<u>\$8,534.88</u>

TABLE NO. XI, GRAY HERBARIUM, CONTINUED.

RECEIPTS.

Amount brought forward,		\$8,534.88
Sale of publications,	\$38.18	
“ contributions,	7.20	
“ card index,	1,990.97	
“ check lists, . . . . .	.15	
Commission on sale of Sullivant's Icones,	5.92	2,042.42
		<u>\$10,577.80</u>

PAYMENTS.

Salaries,	\$5,700.00	
Services and wages,	1,863.66	
Care and cleaning,	167.89	
Repairs and improvements,	13.08	
Furniture,	61.10	
Stationery and postage,	142.71	
Printing,	434.83	
Books,	568.00	
Binding,	107.55	
Advertising,	4.00	
Gray's Manual,	50.00	
Collector's expenses,	276.80	
Supplies and sundries,	1,245.06	\$10,634.68

TABLE NO. XII.

OBSERVATORY.

RECEIPTS.

Gift for Capital Account.

Advancement of Astronomical Science (1902),	\$1,000.00
---	------------

Income of Funds and Gift.

Advancement of Astronomical Science (1902).

Interest (part),	\$643.12	
Sales,	134.80	
Gifts,	377.17	\$1,155.09
Anonymous Gift (1902),	58.75	
Thomas G. Appleton,	246.00	
J. Ingersoll Bowditch,	123.00	
Uriah A. Boyden,	9,835.92	
Charlotte Harris,	98.40	
Haven,	2,214.00	
James Hayward,	1,033.20	
Observatory Endowment,	2,460.00	
Paine Professorship,	2,460.00	
Robert Treat Paine,	13,477.45	

Amounts carried forward,	\$38,161.81	\$1,000.00
------------------------------------	-------------	------------

TABLE NO. XII, OBSERVATORY, CONTINUED.

RECEIPTS.

Amounts brought forward,	\$33,161.81	\$1,000.00
Income of Funds and Gifts (<i>continued</i>).		
Edward B. Phillips,	5,426.46	
Josiah Quincy,	662.38	
James Savage ($\frac{1}{4}$ net income),	441.60	
David Sears,	1,882.79	
Augustus Story,	653.30	42,333.34
Mrs. Henry Draper, gift for special research (additional),	\$10,000.00	
Interest,	13.33	10,013.33
Use of house by College officer,	\$600.00	
Sale of Annals,	140.77	
" grass,	30.00	770.77
		<u>\$54,017.44</u>

PAYMENTS.

From Anonymous Gift (1902),		\$9,240.07
" Advancement of Astronomical Science Fund (1902),	\$3,276.49	
Less amount included in general expenses,	3,000.00	276.49
" Uriah A. Boyden Fund, supplies, apparatus, services, &c.,		12,996.65
" Draper Memorial, supplies, apparatus, services, &c.,	\$9,736.71	
Less amount included in salaries,	2,500.00	7,236.71
Salaries,	\$16,800.00	
Services and wages,	7,289.61	
Repairs and improvements,	1,916.94	
Care and cleaning,	618.40	
Labor,	1,531.50	
Fuel,	626.00	
Water,	79.48	
Lighting,	219.51	
Printing,	1,977.08	
Furniture,	182.35	
Instruments and apparatus,	695.47	
Stationery, postage, and telegraphing,	609.83	
Telephone,	111.60	
Books,	874.42	
Binding,	477.91	
Insurance,	22.23	
Freight,	292.32	
Use of house,	90.00	
Electric power,	61.49	
Legal expenses,	25.00	
Interest on advances,	272.68	
Supplies and materials,	1,756.94	
Sundries,	32.88	35,863.64
		<u>\$65,613.56</u>

TABLE No. XIII.

MUSEUM OF COMPARATIVE ZOOLOGY.

RECEIPTS.

Income of Funds.

Museum of Comparative Zoölogy (balance), . . .	\$1,385.23	
Agassiz Memorial,	14,658.30	
Teachers and Pupils,	373.62	
Virginia Barret Gibbs Scholarship,	272.17	
Gray Fund for Zoölogical Museum,	2,460.00	
Sturgis Hooper,	5,303.42	
Humboldt,	380.86	
Willard Peele Hunnewell,	246.00	
Permanent Fund for Museum of Zoölogy,	5,779.47	
Henry L. Pierce,	4,920.00	\$35,779.07
Use of lecture rooms by Radcliffe College,	\$700.00	
Received for books lost,	19.00	
Sales of publications,	156.38	
Repayment of money in the custody of the Keeper, . . .	485.19	1,860.57
		<u>\$37,189.64</u>

PAYMENTS.

From Sturgis Hooper Fund.

Salary of Sturgis Hooper Professor,	\$5,000.00	
Expenses,	47.00	\$5,047.00
From Virginia Barrett Gibbs Scholarship Fund, scholarship,		\$50.00
Salaries,	\$8,600.00	
Services and wages,	3,765.00	
Repairs and improvements,	1,401.54	
Care and cleaning,	3,743.50	
Fuel,	2,559.69	
Water,	41.09	
Gas,	6.40	
Printing,	3,122.05	
Cases,	853.30	
Furniture,	187.98	
Instruments and apparatus,	270.24	
Stationery and postage,	98.20	
Telephone,	52.58	
Books,	1,492.40	
Binding,	1,552.39	
Insurance,	2.71	
Watchmen,	788.00	
Collections,	1,984.22	
Freight,	283.21	
Supplies and sundries,	738.85	
Amounts carried forward,	\$31,493.35	\$5,397.00

TABLE NO. XIII, MUSEUM OF COMPARATIVE ZOOLOGY, CONTINUED.

PAYMENTS.

Amounts brought forward,	\$31,493.35	\$5,297.00
Less the following items which were paid from College income (see Table II, page 75) :—		
Heating and service,	\$3,240.89	
Librarian's salary (part),	250.00	
Watchman (part),	240.00	
Publishing contributions from the Laboratories of Geology and Zoology,	850.00	4,080.89
		<u>27,412.46</u>
		\$32,709.46

TABLE NO. XIV.

PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY.

RECEIPTS.

Income of Funds.

Hemenway Fellowship,	\$596.89	
Peabody Building,	1,451.00	
Peabody Collection,	2,422.15	
Peabody Professor,	2,422.15	
Thaw Fellowship,	1,178.19	
Henry C. Warren Exploration,	510.50	
Susan Cornelia Warren,	246.00	
Robert C. Winthrop Scholarship,	279.01	
Huntington Frothingham Wolcott,	1,017.26	\$10,118.15
Use of heating plant,		75.00
Gifts for present use,		<u>725.00</u>
		<u>\$10,918.15</u>

PAYMENTS.

From Henry C. Warren Fund, explorations,	\$495.00	
" Huntington Frothingham Wolcott Fund, specimens,	890.07	
Hemenway Fellowship,	500.00	
Thaw Fellowship,	1,158.12	
Robert C. Winthrop Scholarship,	120.00	
Salary of Professor and Curator,	\$2,379.97	
Services and wages,	2,612.26	
Repairs and improvements,	190.82	
*Care and cleaning,	1,053.95	
*Fuel,	199.20	
Water,	25.00	
*Lighting,	10.29	
Printing,	88.74	
Amounts carried forward,	\$6,555.23	\$3,163.19

TABLE NO. XIV, PEABODY MUSEUM, CONTINUED.

PAYMENTS.

Amounts brought forward,	\$6,555.23	\$8,163.19
Furniture,	230.86	
Stationery and postage,	270.88	
Telephone,	86.29	
Books,	91.76	
Binding,	18.75	
Collections,	491.25	
Expenses in collecting specimens,	163.08	
Freight,	193.54	
Supplies,	326.64	
Sundries,	32.29	
Interest on advances,	91.87	
	<u>\$8,501.94</u>	
Less the items marked *, which were paid from University income (see Table I, page 72),	1,263.44	7,238.50
		<u>\$10,401.69</u>

TABLE NO. XV.

SEMITIC MUSEUM.

RECEIPTS.

Income of Gifts for Semitic Collection,		\$252.45
Gift for excavations in Palestine.		
Gift,	\$5,000.00	
Interest,	9.04	5,009.04
		<u>\$5,261.49</u>

PAYMENTS.

From Gifts for Semitic Collection, collections,		\$698.19
General expenses.		
Curator,	\$500.00	
Repairs and improvements,	53.97	
Care and cleaning,	623.48	
Fuel,	255.67	
Water,	21.00	
Lighting,	7.11	
Furniture,	17.00	
Printing,	4.70	
Electric power,	14.34	
Supplies and sundries,	18.57	
Use of Peabody Museum heating plant,	75.00	
These general expenses were paid from University income (see Table I, page 72),	\$1,590.84	
		<u>\$698.19</u>

TABLE No. XVI.
GERMANIC MUSEUM.

RECEIPTS.

Gift for opening the Museum on Sunday and Thursday afternoons,	\$150.00
--	----------

PAYMENTS.

General expenses.

Repairs and improvements,	\$27.66
Care and cleaning,	498.08
Fuel,	107.64
Water,	10.00
Lighting,	76.10
Insurance,	50.00
Binding,	9.25
Photographs,	10.00
Electric power,	68.46
Sunday and Thursday opening of Museum,	215.35
Supplies and sundries,	12.90
	\$1,015.48

Less the amount which was paid from University income (see Table I, page 72),	865.48	\$150.00
---	--------	----------

TABLE No. XVII.

WILLIAM HAYES FOGG ART MUSEUM.

RECEIPTS.

Income of Funds.

William Hayes Fogg Art Museum balance, .	\$5.36	
William Hayes Fogg,	2,460.00	
Gray Fund for Engravings.		
Interest,	\$799.20	
Sale of catalogue,	5.00	804.20
William M. Prichard.		
Interest,	\$820.56	
Gift,	26.21	846.77
John Witt Randall,	1,671.03	
Mary R. Searle,	94.96	\$5,882.32
Sale of photographs and catalogue,		8.50
		\$5,890.82

TABLE NO. XVII, WILLIAM HAYES FOGG ART MUSEUM, CONTINUED.

PAYMENTS.

From the following Funds:—

Gray Fund for Engravings.

Curator,	\$250.00	
Collections,	165.14	
Expenses,	149.60	564.74

William M. Prichard, collections,		80.02
--	--	-------

John Witt Randall.

Curator,	\$250.00	
Collections,	286.08	
Expenses,	846.24	1,382.27

Mary R. Searle, books,		128.87
---	--	--------

William Hayes Fogg.

Director,	\$500.00
Services and wages,	1,317.17
*Care and cleaning,	1,600.74
Repairs and improvements,	121.60
*Fuel,	977.59
*Water,	18.65
*Lighting,	168.52
Furniture,	12.04
Printing,	2.65
Insurance,	21.58
Photographs,	81.59
Work on collections,	29.10
*Electric power,	56.49
Supplies and sundries,	71.52
	<u>\$4,924.19</u>

Less the items marked *, which were paid from University income (see Table I, page 72),	2,816.99	2,107.20
		<u>\$4,257.60</u>

TABLE NO. XVIII.

JEFFERSON PHYSICAL LABORATORY.

RECEIPTS.

Income of Funds.

Jefferson Physical Laboratory (balance),	\$86.00	
Physical Laboratory Endowment,	3,690.00	
T. Jefferson Coolidge, for Research in Physics,	52.59	
Joseph Lovering,	889.47	<u>\$4,218.06</u>

PAYMENTS.

Research in Physics, from

T. Jefferson Coolidge Fund,	\$1,121.24
Joseph Lovering Fund,	806.91
Gift for immediate use,	<u>2.00</u>

Amount carried forward,	\$1,480.15
-----------------------------------	------------

TABLE No. XVIII, JEFFERSON PHYSICAL LABORATORY, CONTINUED.

PAYMENTS.

Amount brought forward,			\$1,480.15
Repairs and improvements,	\$119.98		
Care and cleaning,	1,021.50		
Fuel,	527.18		
Water,	66.64		
Lighting,	611.35		
Telephone,	70.45		
Insurance,	64.69		
Services and wages,	1,846.00		
Electric power,	298.91		
Supplies and sundries,	5.98		
	<u>\$4,127.68</u>		
Less the following items, which were paid from College income (see Table II, page 75) :—			
Repairs,	\$90.22		
Fuel, services, etc.,	600.00	690.22	8,487.46
			<u>\$4,867.61</u>

TABLE No. XIX.

APPLETON CHAPEL.

RECEIPTS.

Income of Funds.			
Fund for Religious Services,	\$50.87		
Increase Sumner Wheeler,	2,460.00		\$2,510.87

PAYMENTS.

Preaching and morning services,	\$3,258.50		
Administrator,	200.00		
Organist and Choir-master,	2,000.00		
Choir,	1,600.00		
Repairs and improvements,	119.53		
Care and cleaning,	344.80		
Fuel,	347.90		
Water,	2.31		
Lighting,	308.67		
Furniture,	44.51		
Printing,	11 90		
Music,	366.61		
Binding,	70.54		
Insurance,	6.79		
Repairing and tuning organ,	218.60		
Sundries,	40.41		
	<u>\$8,986.07</u>		
Less the amount which was paid from University income (see Table I, page 72),	6,425.20		\$2,510.87

TABLE No. XX.

PHILLIPS BROOKS HOUSE.

RECEIPTS.

Income of Funds.

Phillips Brooks House Endowment,	\$516.94	
John W. and Belinda L. Randall,	286.35	
Ralph H. Shepard,	542.38	
Ralph Hamilton Shepard Memorial,	818.23	\$1,663.90
Gifts for immediate use,		750.00
		<u>\$2,413.90</u>

PAYMENTS.

From John W. and Belinda L. Randall Fund.

Social Service Committee,		\$400.00
Secretary of Phillips Brooks House Association,	\$850.00	
Repairs,	195.31	
Care and cleaning,	1,097.06	
Fuel,	382.54	
Water,	90.55	
Lighting,	125.72	
Furniture,	38.82	
Books,	18.99	
Insurance,	322.99	
Cataloguing,	30.00	
Receptions,	380.32	
Services of Religious Education Association,	10.00	
Supplies and sundries,	75.60	
	<u>\$3,612.90</u>	

Less the following items, which were paid from University income (see Table I, page 72) :—

Repairs and improvements,	\$187.01		
Care and cleaning,	997.56		
Fuel,	382.54		
Water,	90.55		
Lighting,	125.72		
Furniture,	8.50		
Insurance,	322.99		
Supplies and sundries,	8.13	2,123.00	1,489.90
			<u>\$1,889.90</u>

TABLE No. XXI.
HEMENWAY GYMNASIUM.

RECEIPTS.

Fees for the use of			
Lockers, by students,	\$3,156.00		
Gymnasium, by graduates,	20.00		
Gymnasium, by members of the Episcopal Theological School,	66.48	\$3,242.48	

PAYMENTS.

Salaries,	\$4,700.00
Services and wages,	1,188.46
Repairs and improvements,	1,899.69
Care and cleaning,	2,416.58
Fuel,	795.18
Apparatus,	350.00
Insurance,	177.75
Water,	227.84
Lighting,	691.76
Printing,	55.66
Furniture,	2.50
Stationery and postage,	38.66
Telephone,	42.85
Supplies and sundries,	44.09
	<u>\$12,626.02</u>

Less the following items: —

Charged to Divinity School (see Table IV, page 96),	\$108.12		
Charged to Law School (see Table V, page 98),	1,905.88		
Charged to The College (see Table II, page 75),	7,369.59	9,383.59	\$3,242.48

TABLE No. XXII.
STILLMAN INFIRMARY.

RECEIPTS.

Income of Funds.

Robert Charles Billings,	\$2,460.00		
Free Bed Fund of the Class of 1868,	262.19		
“ “ for the Stillman Infirmary,	26.52		
Herbert Schurz Memorial Free Bed Fund,	147.60		
Stillman Infirmary (balance),	300.30		
Henry P. Walcott,	130.18		
Samuel Ward (part),	733.58	\$4,060.37	

Receipts from Students.

Infirmary annual fees,	\$14,860.00		
Receipts from patients,	5,752.32	20,612.32	
		<u>\$24,672.69</u>	

TABLE No. XXII, STILLMAN INFIRMARY, CONTINUED.

PAYMENTS.

Services and wages,	\$5,488.11	
Janitors and cleaning,	2,739.25	
Repairs and improvements,	187.40	
Fuel,	2,529.31	
Water,	239.31	
Lighting,	617.70	
Furniture,	275.32	
Stationery and postage,	47.37	
Telephone,	223.49	
Printing,	26.89	
Electric power,	180.43	
Food and supplies,	5,679.78	
Sundries,	65.08	\$18,299.39

TABLE No. XXIII.

SUNDRY FUNDS FOR SPECIAL PURPOSES.

RECEIPTS.

Gifts for Capital Account.

Calvin and Lucy Ellis Aid (additional), . . .	\$2,399.37	
Fund of the Class of 1846,	10,571.07	\$12,970.44

Income of Funds, Gifts, &c.

Advancement of Astronomical Science (1901),	2,460.00	
“ “ “ “ (1902) (part),	643.12	
Bussey Trust (part),	4,000.00	
Class of 1834,	57.91	
“ 1844,	332.96	
“ 1846,	173.38	
“ 1853,	149.00	
“ 1856,	369.00	
Caroline Brewer Croft (part),	2,268.05	
Calvin and Lucy Ellis (part),	995.24	
Calvin and Lucy Ellis Aid (part),	357.77	
Gifts for the purchase of land in New Hampshire (gift), . . .	1,500.00	
George H. Emerson Scholarship (part),	17.69	
Gospel Church ($\frac{1}{2}$ income),	163.03	
Gurney (part),	1,000.00	
Charles L. Hancock (part),	39.06	
Harvard Memorial Society,	65.05	
Insurance and Guaranty Fund (part),	300.36	
Munroe (part),	10.00	
Henry S. Nourse (part),	1,022.19	
Amount carried forward,	\$28,894.25	

TABLE NO. XXIII, SUNDRY FUNDS FOR SPECIAL PURPOSES, CONTINUED.

RECEIPTS.

Amount brought forward,	\$28,894.35	
Income of Funds, Gifts, &c. (<i>continued</i>).		
Robert Troup Paine (accumulating),	1,571.21	
Professorship of Hygiene (part),	3,764.57	
Nelson Robinson Jr. (part),	5,000.00	
George Smith Bequest,	18,637.24	
Stoughton Scholarship (part),	15.00	
Alexander Wheelock Thayer (part),	480.00	
David Ames Wells (part),	111.00	
Charles Wilder,	1,968.00	
Daniel Williams,	819.48	
Sarah Winslow,	236.11	
Woodland Hill. Interest,	\$190.65	
Use of laboratory,	1,000.00	1,190.65
		<u>\$57,687.46</u>

PAYMENTS.

From the following Funds and Gifts.

Advancement of Astronomical Science (1901), annuity, . . .	\$2,885.00	
“ “ “ “ (1902) “ . . .	586.95	
Bussey Trust, Annuities,	4,000.00	
Class of 1853, Secretary of the Class,	149.00	
“ 1856, “ “ “	178.87	
Caroline Brewer Croft, annuity,	2,194.80	
Calvin and Lucy Ellis, taxes and expenses,	111.89	
George H. Emerson Scholarship.		
Legal expenses,	\$17.69	
Repaid to Trustee,	325.00	342.69
Gifts for Cuban Teachers, expenses,	25.00	
“ “ the purchase of land in New Hampshire,	1,480.00	
Gurney, annuities,	1,000.00	
Charles L. Hancock, taxes on Chelsea real estate, . . .	39.06	
Insurance and Guaranty Fund.		
Estate in Lucas St., Boston.		
Sewer assessment,	\$240.36	
Insurance,	60.00	300.36
Munroe, legal expenses,		10.00
Henry S. Nourse.		
Legal and other expenses,	\$22.19	
Annuity,	1,000.00	1,022.19
Professorship of Hygiene, annuity,		3,919.76
George Smith Bequest. Annuities,	\$900.00	
Sundry expenses,	106.54	1,006.54
Amount carried forward,		\$18,752.11

TABLE NO. XXIII, SUNDEY FUNDS FOR SPECIAL PURPOSES, CONTINUED.

PAYMENTS.

Amount brought forward,	\$18,752.11	
From the following Funds and Gifts (<i>continued</i>).		
Stoughton Scholarship, legal expenses,	15.00	
David Ames Wells , legal expenses,	111.00	
Alexander Wheelock Thayer , annuity,	480.00	
Charles Wilder , annuities,	1,908.00	
Daniel Williams .		
Treasurer of Mashpee Indians,	\$529.25	
" " Herring Pond Indians,	259.64	788.89
Sarah Winslow .		
Teacher at Tyngsborough, Mass.,	\$118.99	
Minister " " "	118.99	
Commission on income, credited to University,	5.90	233.88
Woodland Hill .		
Taxes,	\$1,027.52	
Street assessment,	780.26	
Legal expenses,	10.85	1,768.63
		<u>\$24,057.51</u>

TABLE NO. XXIV.

CONSTRUCTION ACCOUNTS.

RECEIPTS.

Emerson Hall . Gifts,	\$5,225.00	
Interest,	4,032.75	\$9,257.75
New Library Building . Gift,	\$10,000.00	
Interest,	870.05	10,870.05
Semitic Building , interest,		23.03
John Simpkins Hall , interest,		10.80
Stillman Infirmary , interest (part),		868.66
Gifts for Improvements and Additions to The Soldier's Field , gift,	20,000.00	
		<u>\$41,025.29</u>

PAYMENTS.

Emerson Hall , construction,	\$111,144.38	
Semitic Building and furniture,	682.06	
John Simpkins Hall , equipment,	956.10	
Stillman Infirmary . Construction, main building,	\$2,105.36	
Contagious Ward,	67,274.67	69,380.03
University Museum ,		1,460.12
Gifts for Improvements and Additions to The Soldier's Field .		
Stadium . Construction,	\$10,000.00	
Interest on advances,	2,953.35	\$12,953.35
Permanent improvements ,	5,000.00	17,953.35
		<u>\$201,576.04</u>

TABLE No. XXV.
SUNDRY ACCOUNTS.

RECEIPTS.

Bursar's Sundry Accounts,		\$461,998.28
Advances from General Investments to		
Anonymous Gift for Observatory,	\$712.95	
Botanic Department,	827.02	
Uriah A. Boyden Fund,	3,160.78	
Classical Publication Fund of the Class of 1856,	218.78	
Department of Education Library,	107.59	
Lloyd McKim Garrison Prize and Medal Fund,	11.44	
Medical School Undertaking,	255,210.16	
Observatory,	18.07	
Sales Book Fund,	5.69	
Ward Book Fund,	114.45	260,881.88
Repayment on account of Aquarium, . . . . .		.40
Gains and Losses for General Investments.		
Gain on sale of \$100,000 Chicago & North Western (Madison Extension) R. R. 1st M. 7's of 1911,	\$6,987.47	
Gain on \$184,000 Fort Scott, South Eastern & Mem- phis R. R. 1st M. 7's, paid off at 105, between September, 1885, and October, 1904,	3,891.81	10,878.78
Gain from change of Special Investments.		
Fund for the Scholarship of the Class of 1883.		
Gain on sale of \$5,000 Brookline Gas Light Co. Gen. M. 5's of 1913,	\$307.50	
Charles L. Hancock Bequest.		
Gain on sale of lands in Chelsea, Mass.,	715.00	
Henry S. Nourse Bequest.		
Gain on sales as follows:—		
32 shares American Sugar Ref. Co.,	\$252.00	
80 " The National Land & Im- provement Co., of Col.,	714.00	
21 " Pennsylvania Steel Co., pref.,	362.25	
45 " Western Tel. & Tel. Co., com.,	61.25	
15 " " " " pref.,	45.00	1,434.50
George Smith Bequest.		
Gain on sale of 480 shares United States Steel Corporation, pref.,	2,880.00	
David Ames Wells Fund.		
Gain on sale of real estate in Brooklyn, N. Y.,	2,890.92	8,227.92
Transfer to the Social Questions Library		
From Gifts for the Department of the Ethics of the Social Questions,		500.00
		<u>\$741,982.21</u>

TABLE NO. XXV, SUNDRY ACCOUNTS, CONTINUED.

PAYMENTS.

Bursar's Sundry Accounts,		\$457,488.85
Advances from General Investments, repaid by		
Advancement of Astronomical Science (1902), . .	\$277.17	
Engineering Camp at Squam Lake,	254.00	
French Department Library,	5.01	
Gifts for Aquarium, . . . . .	.40	
Gifts for Improvements and Additions to The Sol-		
dier's Field, on Account of the Stadium,	2,046.65	
Hollis Book Fund,	6.21	
James Loeb's Gift (part),	43.19	
Peabody Museum of American Archaeology and		
Ethnology,	60.62	
Shapleigh Book Fund,	2.30	
South End House Fellowship,	45.00	
Subscription Book Fund,	7.80	2,748.85
Loss from change of Special Investment.		
Henry S. Nourse Bequest.		
Loss on sale of 30 shares Lanett Cotton Mills,		457.50
Transfer from Gifts for the Department of the Ethics of the Social		
Questions		
To the Social Questions Library,		500.00
Sundry balances,		33.57
		\$461,228.27

GENERAL SUMMARY OF THE TABLES.

Table.	Receipts.	Payments.
I. University,	\$83,421.39	\$133,014.81
II. College,	2,329,366.78	788,630.26
III. Library,	65,263.56	67,717.06
IV. Divinity School,	42,427.40	43,825.87
V. Law School,	146,906.73	102,787.03
VI. { Medical School,	145,419.59	155,235.16
" " Undertaking,	906,340.65	1,287,401.71
VII. Dental School,	30,394.85	61,702.56
VIII. Bussey Institution,	15,896.23	17,818.58
IX. Arnold Arboretum,	61,253.09	47,379.74
X. Botanic Garden and Botanic Museum, .	9,121.45	10,096.83
XI. Gray Herbarium,	10,577.30	10,634.68
XII. Observatory,	54,017.44	65,613.56
XIII. Museum of Comparative Zoölogy, . . .	37,139.64	32,709.46
XIV. Peabody Museum of American Archae- ology and Ethnology,	10,918.15	10,401.69
XV. Semitic Museum,	5,261.49	698.19
XVI. Germanic Museum,	150.00	150.00
XVII. William Hayes Fogg Art Museum, . . .	5,890.82	4,257.60
XVIII. Jefferson Physical Laboratory, . . .	4,218.06	4,867.61
XIX. Appleton Chapel,	2,510.87	2,510.87
XX. Phillips Brooks House,	2,413.90	1,889.90
XXI. Hemenway Gymnasium,	3,242.43	3,242.43
XXII. Stillman Infirmary,	24,672.69	18,299.39
XXIII. Sundry Funds for Special Purposes, . .	57,687.46	24,057.51
XXIV. Construction Accounts,	41,025.39	201,576.04
XXV. Sundry Accounts,	741,982.21	461,228.27
	\$4,837,519.42	\$3,557,246.81

Total amount of payments,	\$3,557,246.81
Total amount of receipts,	\$4,837,519.42
Less gifts for capital account,	1,455,131.97
Balance, which is the net decrease of Funds and bal- ances, excluding gifts for capital account, as is also shown on page 71,	<u>8,382,387.45</u> \$174,859.86

Certificate of the Committees of the Corporation and Overseers of Harvard College, for examining the Accounts of the Treasurer.

The committees appointed by the Corporation and Overseers of Harvard College to examine the accounts of the Treasurer for the year ending July 31, 1905, have, with the assistance of an expert chosen by them, examined and audited the Cash-book and Journal covering the period from August 1, 1904, to July 31, 1905, inclusive, and have seen that all the bonds, notes, mortgages, certificates of stock, and other evidences of property, which were on hand at the beginning of said year, or have been received by him during said year, are now in his possession, or are fully accounted for by entries made therein; they have also noticed all payments, both of principal and interest, indorsed on any of said bonds or notes, and have seen that the amounts so indorsed have been duly credited to the College.

They have in like manner satisfied themselves that all the entries for moneys expended by the Treasurer, or charged in his books to the College, are well vouched; such of them as are not supported by counter entries being proved by regular vouchers and receipts.

They have also seen that all the entries for said year are duly transferred to the Ledger, and that the accounts there are rightly cast, and the balances carried forward correctly to new accounts.

(Signed)

THOMAS N. PERKINS,

Committee on the part of the Corporation.

MOSES WILLIAMS,
STEPHEN M. WELD,
WILLIAM C. ENDICOTT,
G. ST. L. ABBOTT,
ALLAN FORBES,
ARTHUR LYMAN,
RICHARD C. STOREY,
JOHN L. SALTONSTALL,

Committee on the part of the Board of Overseers.

Boston, January 4, 1906.

INDEX

Titles which appear in the table of Funds and Balances, beginning on page 56, are in full face type.

Figures in *italics* represent payments; in regular roman type, receipts.

Two or more entries on a page are indicated by a small figure at the right of the page number: 20^a indicates three entries of receipts on page 20.

Abbreviations are used as follows:—

A., Arnold Arboretum;
B., Book Funds;
Be., Beneficiary and Loan Funds;
C., College;
D., Divinity School;
F., Fellowship Funds;
L., Law School;

M., Medical School;
M.S.U., Medical School Undertaking;
O., Observatory;
P., Professorship Funds;
Pr., Prize Funds;
S., Scholarship Funds;
U., University.

Abbot (*S.*), 59, 78, 85.

Abbot, J. W. P., 57, 77.

Advancement of Astronomical Science
(1901), 41, 68, 119, 120.

Advancement of Astronomical Science
(1902), 6, 21, 30, 41, 42, 68, 109^a,
110, 119, 120, 123.

Advances from General Investments,
122, 123.

Agassiz Memorial, 65, 111.

Alford (*P.*), 57, 76.

Alford (*S.*), 59, 78.

Ames, J. B. (*Loan*), 21, 42, 65, 98^a.

Ames, J. B. (*Pr.*), 5, 48, 65, 98.

Ames, O., 64, 96.

Ames, R. C. (*Be.*), 61, 80, 87.

Anatomical Research, 29, 67, 102.

Andrews, H. C., 64, 96.

Annuities, 120, 121.

Anonymous (*O.*), 68, 109, 110, 122.

Anonymous (*Pr.*), 23, 81, 88.

Anonymous (*S.*), 22, 61, 80.

Anonymous Aid (*Be.*), 21, 42, 67, 100^a.

Appleton Chapel, 33, 39, 74, 124.

Tables, 17, 116.

Appleton, J. A. (*F.*), 22, 77, 85.

Appleton, N. (*Be.*), 61, 80.

Appleton, T. G., 68, 109.

Appropriations, 90, 102.

Aquarium, 122, 123.

Arboretum Construction, 31, 68, 107, 107.

Architecture, 59, 82^a, 90.

Arnold Arboretum, 21^a, 42, 107^a.

Arnold Arboretum, 80, 81^a, 35, 107^a, 107,
124.

Funds, 68.

Tables, 14, 107.

Arnold Arboretum, Books, 81, 107, 107.

Arnold, J., 68, 107.

Austin, D. (*C.*), 57, 94.

Austin, D. (*D.*), 64, 96.

Austin, E., 70, 77^a, 78^a, 80^a, 85^a, 87,
100, 102, 105, 105.

Austin, E. (Bacteriological Laboratory),
66, 101, 102.

Austin, E., Loans Repaid (*Be.*), 65, 80,
87.

Ayer, A., 64, 96.

Bacteriological Laboratory, 29, 101.

Baker, J., 64, 96.

Balance (Fraction) of Income, General
Investments, 9, 73.

Band Music, 56, 72.

Barringer, E. M., 66, 100^a, 102.

Barringer, J. B., 65, 76.

Bartlett (*S.*), 59, 78, 85.

Bassett (*S.*), 60, 78, 85.

Belknap, J. (*Pr.*), 23, 62, 81.

Bemis (*P.*), 65, 98.

Beneficiary and Loan Funds, 61, 64, 65.

Receipts, 19^a, 21^a, 80, 81, 97, 100.

Payments, 33, 87, 88, 97, 99, 102.

Beneficiary Money Returned (*D.*), 64,
96.

Bennett, J. G. (*Pr.*), 62, 81.

- Bennett, P. S. (*Pr.*), 19, 42, 62, 75, 81.
 Bermuda Biological Station, 24^e, 88, 90.
 Bigelow (*S.*), 60, 78, 85.
 Bigelow, A., 56, 72.
 Billings, L. F. (*S.*), 67, 100, 102.
 Billings, R. C. (*A.*), 6, 68, 107.
 Billings, R. C. (Gray Herbarium), 57, 108.
 Billings, R. C. (*M.S.U.*), 67, 104.
 Billings, R. C. (*Pr.*), 64, 96, 97.
 Billings, R. C. (Stillman Infirmary), 69, 118.
 Biological Chemistry, 29.
 Blake, S., 56, 72.
 Blanchard, C. F., 56, 72.
 Blanchard, J. A., 57, 77.
 Board of Animals, 106.
 Bolles, F., Memorial (*Be.*), 61, 80.
 Books Lost, 98, 95, 99, 108, 111.
 Boott, F. (*Pr.*), 62, 81, 83.
 Borden (*S.*), 60, 78.
 Botanic Department, 57, 82, 108, 122.
 Botanic Garden, Cases, 59, 108, 108.
 Botanic Garden and Botanic Museum, 25^e, 35, 108, 124.
 Tables, 14, 108.
 Botanic Laboratories, 82.
 Bowditch (*S.*), 60, 78, 85.
 Bowditch, J. I. (*M.*), 66, 101, 102.
 Bowditch, J. I. (*O.*), 68, 109.
 Bowditch, N. I. (*B.*), 63, 93, 94.
 Bowdoin (*Pr.*), 62, 81, 83.
 Boyden, U. A., 68, 109, 110, 122.
 Boylston (*P.*), 57, 76.
 Boylston, Elocution (*Pr.*), 62, 81, 83.
 Boylston, W. N. (*M., B.*), 66, 101, 102.
 Boylston, W. N. (*M., Pr.*), 67, 101, 102.
 Bradford, S. D., 56, 72.
 Bradley, W. L., 80, 68, 107, 107.
 Brattle, W. (*Be.*), 61, 80, 87.
 Bright (*B.*), 63, 93, 94.
 Bright (*S.*), 60, 78, 85.
 Bright Legacy, 70, 78, 85, 93, 94.
 Brighton Marsh Fence, 69.
 Brooks House, Phillips, 69, 117.
 Brooks House, Phillips, 22, 33, 39, 74, 117, 124.
 Funds, 69.
 Tables, 18, 117.
 Brown, J. B. and B., 66, 100.
 Browne (*S.*), 60, 78, 85.
 Buckley, D. A. (*Be.*), 5, 19, 42, 45, 62, 75, 80.
 Buckminster, M. W. (*S.*), 60, 78, 85.
 Building, Gifts for (Dental School), 68, 105, 105.
 Burr (*S.*), 60, 78, 85.
 Burr, R. D. (*B.*), 64, 97.
 Bursar's Sundry Accounts, 70, 122, 123.
 Bussey (*A.*), 68, 107.
 Bussey (*P., D.*), 64, 96.
 Bussey, B. (*P., L.*), 65, 98.
 Bussey, B., Trust, 6, 41, 70, 96, 98, 106, 119, 120.
 Bussey Institution, 68, 106.
 Bussey Institution, 35, 106, 124.
 Funds, 68.
 Tables, 13, 106.
 Buttrick, A. W. (*Be.*), 64, 96, 97.
 Cabot, W. C., 20, 42, 57, 75, 76.
 Carter, J. W., 8, 56, 72.
 Cary, T. (*S.*), 64, 96, 97.
 Cercle Français de l'Université Harvard (*F.*), 22, 59, 77, 85.
 Certificate, Committees on the Treasurer's Accounts, 125.
 Changes in the Funds, Table, 71.
 Chapman, G. (*S.*), 64, 96, 97.
 Cheever, D. W. (*S.*), 67, 100, 102.
 Chemistry, 90.
 Child, F. J. (Memorial), 21, 42, 57, 75, 82, 83.
 Choate, R. S. (*S.*), 60, 78, 85.
 Clapp, J., 64, 96.
 Clapp, J. (*S.*), 64, 96, 97.
 Class of 1802 (*S.*), 60, 78, 85.
 Class of 1814 (*S.*), 60, 78, 85.
 Class of 1815, Kirkland (*S.*), 60, 78, 85.
 Class of 1817 (*S.*), 60, 78, 85.
 Class of 1828 (*S.*), 60, 78, 85.
 Class of 1834, 6, 69, 119.
 Class of 1835 (*S.*), 60, 78, 85.
 Class of 1841 (*S.*), 60, 78, 85.
 Class of 1844, 6, 69, 119.
 Class of 1846, 20, 42, 69, 119^e.
 Class of 1851, 63, 94.
 Class of 1851 (C. F. Dunbar), 63, 94.
 Class of 1852, Dana (*S.*), 60, 78, 85.
 Class of 1853, 6, 41, 69, 119, 120.
 Class of 1856, 41, 69, 119, 120.
 Class of 1856 (*S.*), 60, 78, 85.

- Class of 1867 (*S.*), 60, 78, 85.
 Class of 1877 (*S.*), 60, 78, 86.
 Class of 1880, 20, 42, 57, 75, 76.
 Class of 1883 (*S.*), 4, 48, 60, 78, 86, 122.
 Class Subscription, 20, 42, 57, 75, 76.
 Classical Library, 28^a, 59, 82, 90.
 Classical Publication Fund of the Class
 of 1856, 57, 82, 88, 122.
 Codman, E. W., 4, 20, 42, 44, 45^a, 76, 77.
 College, 33, 124.
 Funds, 57.
 Tables, 11, 75.
 Conant, E. (*D.*), 64, 96.
 Conant, E. (Library), 63, 98, 94, 94.
 Constantius, 63, 93, 94, 94.
 Construction Accounts, 124.
 Table, 121.
 Construction Gifts (balances), 69.
 Coolidge, Debating (*Pr.*), 62, 81, 88.
 Coolidge, T. J., 4, 57, 115, 116.
 Cotting Gift (*Be.*), 67, 100, 102.
 Cotton, T., 56, 72, 74.
 Cowdin, J., 56, 72.
 Croft, C. B., 25, 41, 66, 101, 102, 119,
 120.
 Crowninshield (*S.*), 60, 78, 86.
 Cryptogamic Herbarium, 57, 82.
 Cuban Teachers, Gifts for, 41, 70, 120.
 Cudworth, W. H. (*S.*), 22, 60, 78, 86.
 Cummings, F. H. (*S.*), 60, 78, 86.

 Dana, Class of 1852 (*S.*), 60, 78, 85.
 Dane (*P.*), 65, 98.
 Danforth, T. (*Be.*), 62, 80.
 Dante (*Pr.*), 62.
 Day, M. (*Be.*), 62, 80, 87.
 Denny (*B.*), 63, 93, 94.
 Dental School, 35, 38, 40^a, 124.
 Funds, 68.
 Tables, 13, 105.
 Dental School (balance), 68, 105, 105.
 Dental School, Building, 30^a, 68, 105,
 105.
 Dental School Endowment, 68, 105.
 Derby, G. and M. (*S.*), 60, 78, 86.
 Dexter, J. (*S.*), 60, 79, 86.
 Dexter Lectureship, 64, 96.
 Dillaway, G. W. (*F.*), 59, 77, 85.
 Disbursements and Receipts, General
 Statement, 32.

 Divinity School, 28, 35, 38, 40^a, 124.
 Funds, 64.
 Tables, 12, 96.
 Divinity School (balance), 64, 96.
 Doe, O. W. (*C.*, *S.*), 60, 79, 86.
 Doe, O. W. (*M.*, *S.*), 67, 100, 102.
 Dormitories:
 College, 33, 40, 84, 91.
 Divinity School, 40, 97.
 Dorr, G. B., 3, 56, 72.
 Draper, G., 3, 56, 72.
 Draper Memorial, 30, 68, 110, 110.
 Dudley, P., 57, 76.
 Dunbar, C. F. (Class of 1851), 63, 94.

 Eaton (*P.*), 4, 57, 76.
 Eddy, R. H., 3, 56, 72.
 Education, Library, 90, 122.
 Education (*S.*), 60, 86.
 Eliot (*P.*), 57, 76.
 Eliot, J. Blanchard's Gift (*P.*), 57, 76.
 Eliot, W. S. (*S.*), 60, 79, 86.
 Ellery, J. (*Be.*), 62, 80.
 Ellis, C. and L., 5, 41, 66, 100, 119, 120.
 Ellis, C. and L. (Aid), 6, 19, 42, 70, 76,
 80, 87, 119.
 Ellis, H., 56, 72.
 Embryological Laboratory, 29.
 Emerson, G. H. (*S.*), 19, 41, 42^a, 48, 49,
 65, 76, 79, 86, 119, 120.
 Emerson Hall (Construction), 25^a, 43,
 69, 121, 121.
 Emerson Hall (Furnishing), 25, 59, 88,
 90.
 Emerson Hall (Furnishings, Social Eth-
 ics), 25, 59, 88.
 Engineering (Electrical Apparatus), 59.
 Engineering (*P.*), 65, 77.
 Erving (*P.*), 57, 76.
 Ethics of the Social Question, 24, 59,
 83, 90, 122, 123.
 Eveleth, J. (*S.*), 60, 79, 86, 100, 102.
 Exhibitions (*Be.*), 62, 80, 88.
 Expenses and Income (General State-
 ment), 32.
 Experimental Phonetics, 30.

 Fabyan, G. (*P.*), 66, 100, 101, 102.
 Fabyan, G., Addition of 1903 (*P.*), 67,
 104.
 Fall River (*S.*), 60, 79, 86.

Farrar, E. (B.), 63, 93, 94.

Farrar (S.), 60, 79, 86.

Fees :

Examination, 40^a, 83, 101, 105.

Graduation, 40^a, 84, 101.

Hemenway Gymnasium, 40, 118.

Infirmary (Dental School), 42, 105.

Laboratory, 40^a, 84, 101, 105.

Library, 94.

Matriculation, 40, 101.

Microscopes, 40^a, 101, 105.

Repaid to Instructors, 35, 103^a.

Stillman Infirmary, 40, 118.

Tuition, 35, 38⁷, 40^a, 83, 97, 99, 101, 103^a, 105, 106.

Fellowships :

Funds, 59, 66, 67.

Receipts, 22^a, 77, 78, 100, 105, 112.

Payments, 33, 85, 102, 105, 112.

Fence, 21, 73.

Fines (B.), 40^a, 93, 95, 97, 105.

Fisher (P.), 57, 76.

Fitch, T. (Be.), 62, 81.

Fitz, S. E., 66, 100.

Flynt, E. (Be.), 62, 81.

Flynt, H. (Be.), 62, 81.

Flynt, H. (for Tutors), 57, 76.

Fogg Art Museum, 33, 39, 74, 124.

Funds, 69.

Tables, 17, 114.

Fogg Art Museum (balance), 69, 114.

Fogg, W. H., 69, 114, 115.

Forestry, Equipment, 90.

Foster, J. (Be.), 67, 70, 98, 102.

Foster, R. W., 19, 42, 56, 72^a.

Free Bed Fund of the Class of 1868, 69, 118.

Free Bed Fund for Stillman Infirmary, 69, 118.

French, J. D. W., 3, 56, 72.

French, Library, 28, 82, 90, 123.

Frothingham (P.), 64, 96.

Fuller, A. W., 64, 96.

Funds and Balances, Table, 56.

Funds in Trust for Purposes not Connected with the College, 70.

Gain from change of Special Investments, 122.

Gains and Losses for General Investments, 9, 70, 122.

Gambrill, R. A. (S.), 60, 79, 86.

Gardner, G. A., 65, 82, 88.

Garrison, L. McK. (Pr.), 19, 42, 62, 76, 81, 83, 122.

Geology and Geography :

Deep Sea Deposits, 24, 82.

Exhibition Rooms, 90.

Meteorological Observatory, 24, 82, 90.

Germanic Museum, 22, 33, 37, 74, 114, 114, 124.

Tables, 16, 114.

Germanic Museum (Collections), 59.

Gibbs, H. (Be.), 62, 81.

Gibbs, V. B. (S.), 65, 111, 111.

Gifts Received for

Funds (Capital Account), 19, 20, 21, 42, 71, 124.

Immediate Use, 21 to 31, 42.

Glover, J. (Be.), 62, 81.

Godkin Lecture, 57, 76.

Goodwin, C. H. (S.), 60, 79, 86.

Goodwin, O., Memorial (F.), 59, 77, 85.

Gore, 56, 72.

Gospel Church, 57, 76, 119.

Gould, L., 64, 96.

Gray (Engravings), 69, 114, 115.

Gray, A. (Copyrights), 42, 108.

Gray, A. (Memorial), 57, 108.

Gray, A. (P.), 57, 76.

Gray Herbarium, 26^a, 27^a, 37, 124.

Tables, 15, 108.

Gray Herbarium (balance), 57, 108.

Gray, J. C., 3, 56, 72.

Gray, Zoological Museum, 65, 111.

Greene, B. D. (S.), 60, 79, 86.

Greenleaf, P., 7, 46, 48, 70, 79, 81, 86, 88, 93, 94, 94.

Greenleaf, P. (Aid) (Be.), 62, 81, 88.

Greenleaf, P. (B.), 63, 93, 94.

Greenleaf, P. (S.), 60, 79, 86.

Greenough, F. B., 21, 42, 66, 100, 101.

Gurney, 41, 57, 76, 119, 120.

Hale, G. S. and E. S., 57, 82.

Hall, L. J., 64, 97, 97.

Hancock, C. L., 6, 41, 42, 48, 64, 77, 96, 119, 120, 122.

Hancock, J. (P.), 64, 96.

Harlow, E. A. W. (Be.), 19, 44, 62, 76, 81.

- Harris (F.),** 59, 77, 85.
Harris, C., 68, 109.
Harris, H., 70, 72, 100.
Harvard Club of Buffalo (S.), 22, 60, 79, 86.
Harvard Club of Chicago, 22, 79, 86.
Harvard Club of Louisiana, 22, 79, 86.
Harvard Club of San Francisco, 23, 79, 86.
Harvard Club of St. Louis, 23, 79, 86.
Harvard Memorial Society, 70, 119.
Harvard Oriental Series, 57, 82, 88.
Hastings, W., 3, 56, 72.
Haven (D.), 64, 96.
Haven (O.), 68, 109.
Haven, H. A. (B.), 63, 93, 94.
Haven, J. A. (S.), 60, 79, 86.
Hayden, L. and H. (S.), 67, 100, 102.
Hayes, F. B. (B.), 63, 93, 94.
Hayward, G. (B.), 63, 93, 94.
Hayward, J., 68, 109.
Heating Plant, Use of, 112, 113.
Hemenway (F.), 66, 112, 113.
Hemenway Gymnasium, 33, 39, 40, 42, 89, 124.
Tables, 18, 118.
Herbarium, 57, 108.
Hersey (P.), 57, 76, 100.
Hersey, Thomas Lee's Gift (P.), 57, 76.
Higginson, G. (P.), 67, 100, 104.
Hilton, W. (S.), 60, 79, 86, 100, 102.
History and Government. Library, 90.
Hoar, E. R. (S.), 60, 79, 86.
Hoar, L. (S.), 60, 79, 86.
Hoar, S., 64, 96.
Hodges (S.), 60, 79, 86.
Hodges, R. M. (Library), 63, 94.
Hollis (S.), 60, 79, 86.
Hollis, Divinity (P.), 57, 76.
Hollis, Mathematics (P.), 57, 76.
Hollis, T. (B.), 63, 93, 94, 123.
Hollis and Stoughton Halls, Improve-ments, 25²², 88.
Holyoke, E. (Be.), 62, 81, 88.
Homer, S. (B.), 63, 93, 94.
Hooper, E. W. (F.), 19, 44, 59, 76, 77.
Hopkins, E. (Pr.), 42, 62, 81, 88.
Horticultural Department, 106, 106.
Houses, Use of, 73, 106, 108, 110.
Hughes Loan, 65, 98, 99.
Humboldt, 65, 111.
Humphrey, H. B. (S.), 60, 79, 86.
Hunnewell, W. P., 65, 111.
Huntington, Mrs. C. P., 29, 104.
Hyde, G. B., 56, 72.
Hygiene (P.), 4, 41, 42, 53, 77, 120, 120.
Income,
Rate, 9.
Table, 32.
Ingersoll Lecture, 58, 76, 82, 88.
Insurance Awards, 42, 84.
Insurance and Guaranty, 3, 41, 56, 72, 119, 120.
Interest (Tuition in Advance), 84, 96, 99, 100, 105, 106.
Investments held July 31, 1905,
General, 8, 52, 53, 54, 55.
Special, 3, 4, 5, 6, 7, 8, 52.
Jackson (S.), 64, 96, 97.
Jackson, Addition of 1902 (P.), 67, 104.
Jackson, H., 67, 104.
Jackson Medical (P.), 66, 100.
Jarvis (B.), 63, 93, 94.
Jarvis, L., 56, 72.
Jefferson Physical Laboratory, 33, 39, 89, 124.
Tables, 17, 115.
Jefferson Physical Laboratory (balance), 58, 89, 115.
Jennings, H. (S.), 65, 79, 86.
Jones, C. L. (S.), 60, 79, 86.
Jones, C. M. (S.), 67, 100, 102.
Keayne, R. (Be.), 62, 81, 88.
Kendall, J. H. (S.), 64, 96, 97.
Kendall, N. (S.), 64, 97, 97.
Kidder, H. P. (D.), 64, 96.
Kidder, H. P. (U.) 56, 72.
Kimball, B. (Be.), 62, 81, 88.
Kirkland, Class of 1815 (S.), 60, 78, 85.
Kirkland, J. T. (F.), 59, 77, 85.
Land, Use of, 73.
Landscape Architecture, 24, 82, 90.
Lane, F. A. (B.), 63, 93, 94.
Law School, 35, 38, 124.
Funds, 65.
Tables, 12, 98.
Law School (B.), 65, 98.

Law School (balance), 65, 98.
 Law School Exhibition, 65, 99.
 Law School Library, 65, 98.
 Lawrence, A., 65, 76.
 Lawrence, J., 65, 76.
 Lawrence Scientific School Association
 (S.), 23, 65, 79, 86.
 Lawrence Scientific School Funds, 65.
 Lawrence Scientific School, Loans Re-
 paid, 65, 81, 88.
 Lectures, 24, 77.
 Lee, H. (P.), 58, 76.
 Lee, H., Memorial (F.), 59, 77, 85.
 Lee, J., 3, 56, 72.
 Lee, T. (Hersey P.), 57, 76.
 Lee, T. (Reading), 58, 76.
 Library, 27¹³, 28¹⁴, 33, 40, 42, 94, 95,
 124.
 Funds, 63.
 Tables, 11, 93.
 Library Building, 28, 69, 121.
 Libraries, Special Reference, 28², 88, 95.
 Lienow, H., 64, 96.
 Lindall, M. (Be.), 62, 81, 88.
 Linder, A. H. (S.), 67, 101, 102.
 Loeb, James (gift), 123.
 Loss from Change of Special Investment,
 123.
 Lovering, J., 58, 115, 115.
 Lowell (B.), 63, 93, 94.
 Lowell (Botanic Garden), 58, 108.
 Lowell, G. E. (S.), 61, 79, 86.
 Lowell Memorial Library, 90.
 Lunar Photographs (Publishing), 68.
 Lyman, A. T., 4, 48, 58, 76.
 Lyman, S. B. (Be.), 62, 81.
 Lyman, T., 56, 72.

 McLean (P.), 58, 76.
 Markoe (S.), 61, 79, 86.
 Mathematics, 28, 82, 90.
 Matthews (S.), 61, 79, 86.
 Medical Library, 66, 101.
 Medical School, 35, 38, 40⁶, 124.
 Funds, 66.
 Tables, 13, 100.
 Medical School (balance), 66, 100.
 Medical School Undertaking, 29³, 35,
 104⁴, 122, 124.
 Funds, 67.
 Table, 104.

Memorial Hall and Sanders Theatre, 74.
 Merriam, C., 64, 96.
 Merrick (S.), 61, 79, 86.
 Mills, A. (Be.), 62, 81.
 Mining and Metallurgy (Museum), 24,
 83.
 Minot, C. (B.), 63, 98, 94.
 Morey (S.), 61, 79, 86.
 Morgan, H. T., 56, 94.
 Morgan, J. P., 29, 67, 104.
 Moseley, W. O. (P.), 66, 100.
 Mowison, Lady (S.), 61, 79, 86.
 Munroe (Be.), 41, 62, 81, 88, 119, 120.
 Munson, I., 56, 72.
 Museum of Classical Archaeology, 24⁴,
 82.
 Museum of Comparative Zoölogy, 33, 37,
 89, 124.
 Funds, 65.
 Tables, 15, 111.
 Museum of Comparative Zoölogy (bal-
 ance), 65, 111.
 Music Department, 58, 82.

 Nash, N. C., Lecture Room Alterations,
 25, 88.
 New Endowment (D.), 64, 96.
 Neuropathology, 29².
 New Hampshire (Purchase of Land),
 25, 43, 119, 120.
 New Subscription (M.), 66, 100.
 Nichols, H. G. (S.), 61, 79, 86.
 Noble, W. B., 58, 77.
 Normal Scholarships, 87.
 Norton, C. E. (B.), 21, 44, 63, 98².
 Norton, C. E. (F.), 4, 59, 78, 85.
 Nourse, H. S., 8, 41, 46, 56, 72, 119, 120,
 122, 123.

 Observatory, 37, 122, 124.
 Funds, 68.
 Tables, 15, 109.
 Observatory Endowment, 68, 109.
 Office Expenses, 73, 74, 92.
 Oliver, J. P. (S.), 67, 101, 102.
 Osgood, L. (B.), 63, 98, 94.
 Osgood, L. (S.), 61, 79.
 Osgood, M. (B.), 63, 93, 94.
 Other Funds for Special Purposes, 68.
 Overseers' Expenses, 73.

- Paine (P.),** 68, 109.
Paine, Robert Treat (F.), 59, 78, 85.
Paine, Robert Treat (O.), 68, 109.
Paine, Robert Troup, 6, 45, 70, 120.
Palestine (Excavations), 22, 70, 118.
Palfrey Exhibition (Be.), 62, 81, 88.
Parker, F. E., 8, 56, 72.
Parker, J. (F.), 59, 78, 85.
Parkman (P.), 64, 96.
Pathology :
 Nervous System, 29^a.
 Research, 80.
 Special Use, 29^a.
Pathological Laboratory, 68, 104, 104.
Pathological Library, 29, 67, 102.
Peabody (P.), 6, 57, 66, 112.
Peabody, A. P., Memorial (Be.), 62, 81, 88.
Peabody Building, 6, 66, 112.
Peabody Collection, 6, 66, 112.
Peabody, F. G., 20, 44, 53, 76, 82.
Peabody, G. F. (S.), 4, 61, 79, 86.
Peabody Museum of American Archaeology and Ethnology, 80^a, 33, 37, 74, 112, 123, 124.
 Funds, 66.
 Tables, 16, 112.
Pearce, D. H., 58, 77.
Pennoyer (S.), 61, 79, 86.
Perkins (P.), 58, 77.
Perkins, R. A. (S.), 61, 79, 86.
Perkins, W., 56, 72.
Permanent, 65, 111.
Permanent Tutors, 57, 76.
Philadelphia (S.), 19, 44, 61, 76, 79, 87.
Phillips, E. B., 68, 110.
Phillips, J., 58, 77.
Phillips, J. (Ellet P.), 4, 57, 76.
Phillips, W., Memorial (S.), 61, 79, 87.
Physical Laboratory, 58, 115.
Physical Research, 59.
Physiology, 80.
Pierce, H. L., 56, 93, 94.
Pierce, H. L. (M.S.U.), 67, 104.
Pierce, H. L. (Residuary), 56, 72, 94, 111.
Plantation of Shrubs, 59, 83, 90.
Plummer (P.), 58, 77.
Political Economy, 90.
Political Economy, Lectures on, 58, 76.
Pomroy, W. (Be.), 64, 97, 97.
Pope (P.), 58, 77.
Porter, C. B. (S.), 67, 101, 102.
Premium on Bonds, Repayments, 9.
President's, 56, 73, 74.
Prichard, W. M., 28, 69, 114, 115.
Printing Office, 92.
Prizes :
 Funds, 62, 64, 67.
 Receipts, 19^a, 23^a, 81, 82, 96, 101.
 Payments, 33, 83, 97, 102.
Proctor, 67, 104, 104.
Psychological Laboratory (Equipment), 25, 83, 90.
Public Buildings (C.), 33, 91.
Quinby, J. W., 64, 96.
Quincy, J., 68, 110.
Randall, J. W., 69, 114, 115.
Randall, J. W. and B. L., 69, 117, 117.
Receipts and Disbursements, General Statement, 32.
Religious Services, 57, 116.
Repayments, 35, 50^a, 73, 80^a, 81^a, 97, 98^a, 99, 103^a, 111, 120, 122.
Retiring Allowance, 56, 78, 74.
Retiring Allowances, 35, 74, 103.
Ricardo Prize (S.), 22, 61, 79, 87.
Richmond, A. C., 64, 96.
Riverside, 4, 56.
Robinson, N., Jr., 58, 77, 78, 82, 85, 89, 120.
Rockefeller, J. D., 67, 104.
Rodger (S.), 61, 79.
Rogers (F.), 59, 78, 85.
Rogers, H. B. (S.), 61, 79, 87.
Rogers, H. B., Memorial (F.), 59, 78, 85.
Rooms, Use of, 40, 84, 97, 111.
Rotch, A., 65, 77.
Royall (P.), 65, 98.
Rumford (P.), 58, 77.
Ruppaner, Dr., 66, 100.
Russell, E. (S.), 61, 80, 87.
Russell, J. L. (Botanic Garden and Gray Herbarium), 58, 108^a.
Russell, J. L. (D.), 64, 96.
Russell, J. L. (U.), 56, 73.
St. Louis Exposition, 22, 73.
Salaries, Gifts for, 23^a, 29^a, 80, 59, 77.
Salaries, Payments, 33^a, 35^a, 37^a, 39^a, 74, 91, 95, 97, 99, 103, 105, 106, 107, 109, 110, 111, 112, 116, 118.

- Sales (Pr.),** 62, 82, 88.
Sales (Receipts), 73², 82², 84¹¹, 98, 94,
 97², 99, 104, 105², 106², 107, 109², 110²,
 111, 114².
Sales (S.), 61, 80, 87.
Sales, F. (B.), 63, 98, 94, 122.
Salisbury, S. (B.), 63, 98, 94.
Saltonstall (S.), 61, 80, 87.
Saltonstall, G., 58, 77.
Saltonstall, L. (S.), 61, 80, 87.
Saltonstall, M. (S.), 61, 80, 87.
Sanskrit Department, 59, 90.
Sargent, J. O. (Pr.), 62, 82.
Savage, J. (S., L., O.), 70, 80, 87, 94,
 110.
Sawin, G. W., 58, 82, 88.
Schlesinger, B., 58, 89.
Scholarships:
 Funds, 59, 64, 65, 66, 67.
 Receipts, 19², 22², 23², 78, 79, 80, 96,
 97, 100, 101, 112.
 Payments, 33, 35, 85, 86, 87, 97, 99,
 102, 111, 112.
Scholarship and Beneficiary Money Re-
turned (Be.), 58, 81, 88.
Scholarship Money Returned (Law), 65,
 98, 99.
School of Comparative Medicine, 68,
 104.
Schurz, H., Memorial Free Bed, 69, 118.
Searle, M. R., 56, 114, 115.
Sears, D. (M.S.U.), 29, 67, 104.
Sears, D. (O.), 68, 110.
Semitic Building, 43, 69, 121, 121.
Semitic Collection, 70, 118, 113.
Semitic Library, 59, 88, 90.
Semitic Museum, 33, 37, 74, 124.
 Tables, 16, 113.
Sever (B.), 63, 98, 94.
Sever (S.), 61, 80, 87.
Sewall (S.), 61, 80, 87.
Sewall, J. (Be.), 62, 81.
Shapleigh, S. (B.), 63, 98, 95, 123.
Shattuck (S.), 61, 80, 87.
Shattuck, Addition of 1902 (P.), 21, 44,
 68, 104.
Shattuck, G. C. (P.), 5, 66, 100.
Shattuck, G. C., Memorial (F.), 67, 100,
 102.
Shepard, R. H., 69, 117.
Shepard, R. H. (Memorial), 69, 117.
Simpkins, J., Hall, 43, 69, 121, 121.
Slade (S.), 61, 80, 87.
Smith (P.), 58, 77.
Smith, D. (S.), 4, 61, 80, 87.
Smith, G., 7, 41, 48, 69, 120, 120, 122.
Social Ethics (Furnishings), 25, 59, 83.
Social Questions Library, 90, 122, 123.
Social Workers, School for, 24², 38, 58,
 88, 90.
Sohier, G. B. (B.), 63, 98, 95.
Sohier, G. B. (Pr.), 62, 82, 88.
Soldier's Field, The,
 Improvement and Additions, 81, 43,
 121, 121, 123.
South End House (F.), 22², 78, 85, 123.
Spackman, W. M., 20, 44, 58, 76, 77.
Spooner, W. B., 64, 96.
Squam Lake Camp, 25², 42, 43, 83², 84²,
 119, 120, 123.
Stadium, 43, 121.
Stickney, J., 58, 77.
Stillman Infirmary, 69, 118, 121, 121.
Stillman Infirmary, 38, 41, 43, 118, 124.
 Funds, 69.
 Tables, 18, 118.
Stillman Infirmary (balance), 69.
Stillman Infirmary (Contagious Ward),
 43, 69, 121, 121.
Stillman, J. (P.), 68, 104.
Story (S.), 61, 80, 87.
Story, A., 68, 110.
Stoughton (S.), 4, 41, 61, 80, 120, 121.
Strong, C. P. (S.), 67, 101, 102.
Students, Receipts from, 38, 88, 97, 99,
 101, 105, 106, 118.
Sturgis Hooper (P.), 37, 65, 111, 111.
Subscription for Library (B.), 63, 98,
 95, 123.
Sugar Cane Investigations, 59, 108, 108.
Sullivant's Icones, 109.
Summaries:
 Investments and Income, 8.
 Tables, 124.
Summer Schools, 33, 40, 88, 84, 89.
Sumner, C. (B.), 63, 98, 95.
Sumner, C. (Pr.), 62, 82, 88.
Sundry Accounts, 124.
 Table, 122.
Sundry Balances (L.), 63.
Sundry Balances (Sundry Funds), 70,
 123.

Sundry Funds, 70.

Sundry Funds for Special Purposes, 69, 124.

Table, 119.

Surgical Laboratory, 66, 101, 102.

Surgical Laboratory, 80².

Sweetser, I. (*M.*, *S.*), 67, 101, 102.

Sweetser, I. (*U.*), 56, 78.

Swett, M. W., 66, 100.

Swett, S. W., 66, 100.

Swift (*S.*), 61, 80.

Tables:

Appleton Chapel, 17, 116.

Arnold Arboretum, 14, 107.

Botanic Garden and Botanic Museum, 14, 108.

Phillips Brooks House, 18, 117.

Bussey Institution, 13, 106.

Changes in the Funds, 71.

College, 11, 75.

Construction Accounts, 121.

Dental School, 13, 105.

Divinity School, 12, 96.

W. H. Fogg Art Museum, 17, 114.

Funds and Balances, 56.

Germanic Museum, 16, 114.

Gray Herbarium, 15, 108.

Hemenway Gymnasium, 18, 118.

Jefferson Physical Laboratory, 17, 115.

Law School, 12, 98.

Library, 11, 93.

Medical School, 13, 100.

Medical School Undertaking, 104.

Museum of Comparative Zoölogy, 15, 111.

Observatory, 15, 109.

Peabody Museum, etc., 16, 112.

Semitic Museum, 16, 113.

Stillman Infirmary, 18, 118.

Sundry Accounts, 122.

Sundry Funds for Special Purposes, 119.

University, 10, 72.

Taylor, J. T. (*S.*), 67, 101, 102.

Taylor, K. M. (*B.*), 63, 98, 95.

Teachers' and Pupils', 65, 111.

Teachers' Endowment, 5, 20, 44, 42, 58, 76, 77.

Thaw (*F.*), 6, 66, 112, 112.

Thayer (*S.*), 61, 80, 87.

Thayer, A. W. (*Be.*), 41, 62, 81, 120, 121.

Thayer, J. E., 58, 82, 89.

Thomas, G. (*S.*), 61, 80, 87.

Thorndike, W. H. (*Pr.*), 67, 101.

Tileston, T., 64, 96.

Toppan (*S.*), 61, 80, 87.

Toppan, R. N. (*Pr.*), 62, 82.

Torrey, E., 58, 82, 89.

Torrey, H. W., 58, 82, 89.

Townsend (*S.*), 61, 80, 87.

Townsend, M. P., 64, 96.

Treadwell, D., 63, 93, 94, 95.

Tucker, I. (*B.*), 5, 63, 93, 95.

Tufts, Q. (*Be.*), 62, 81, 82.

Tufts, Q. (*M.*), 66, 100.

Turner, S., 56, 78.

Tyndall, J. (*F.*), 59, 78, 85.

University, 33, 124.

Funds, 56.

Scholarships, 87².

Tables, 10, 72.

University Museum, Construction, 43, 69, 121.

Unknown Memorial, 58, 77, 82, 89.

Unrestricted Gifts, 22, 24, 73, 88.

Villard, H., 4, 56, 78.

Wadsworth, B. (*Be.*), 62, 81.

Walcott (*S.*), 61, 80, 87.

Walcott, H. P., 69, 118.

Wales (*P.*), 4, 58, 77.

Wales, H. W. (*B.*), 63, 93, 95.

Walker, J. (*B.*), 63, 93, 95.

Walker, J. (*F.*), 59, 78, 85.

Ward, S., 4, 58, 81, 88, 118.

Ward, T. W. (*B.*), 63, 93, 95, 122.

Ward, W., 64, 96.

Ware, C. E., Memorial (*F.*), 67, 100, 102.

Ware, J., Memorial (*F.*), 67, 100, 102.

Warren (Anatomical Museum), 33, 66, 101, 102.

Warren, C. M., 58, 82, 89.

Warren, H. C. (*C.*), 58, 77, 82, 89.

Warren, H. C. (Dental School), 68, 105.

Warren, H. C. (Exploration), 66, 112, 112.

- Warren, S. C., 66, 112.
 Washburn, P. (*Pr.*) 62, 82, 88.
 Waterhouse, S., 58, 77.
 Waterston, R. (*B.*), 63, 93.
 Weld (*P.*), 65, 98.
 Weld, C. M. (*S.*), 61, 80, 87.
 Weld, W. F., 4, 56, 73.
 Wells, D. A. (*P., Pr.*), 4, 41, 48, 62, 77, 82, 120, 121, 122.
 Wendell, J. (*S.*), 61, 80, 87.
 Wheeler, I. S., 58, 116.
 Wheeler, S. W. (*Be.*), 65, 81, 88.
 Wheelock, J., 20, 44, 58, 76, 77.
 Whiting (*F.*), 59, 78, 85.
 Whiting (*S.*), 61, 80, 87.
 Whitney, J. D. (*S.*), 61, 80, 87.
 Whitney, M. L. (*S.*), 42, 61, 80, 87.
 Wigglesworth, E. (*S.*), 67, 101, 102.
 Wilder, C., 41, 66, 120, 121.
 Williams, D., 41, 70, 120, 121.
 Williams, H. W. (*P.*), 66, 100.
 Winn (*P.*), 64, 96.
 Winslow, S., 41, 70, 78, 120, 121.
 Winthrop, R. C. (*S.*), 66, 112, 112.
 Wolcott, H. F., 66, 112, 112.
 Wolcott, J. H. (*B.*), 63, 98, 95.
 Woodland Hill, 6, 41, 45, 68, 120, 121.
 Wright, C., 58, 82, 89.
 Wright, E., 63, 94.
 Wyman, C. (*S.*), 19, 44, 61, 76, 80.
 Zoölogical Laboratory Contributions, 24, 88, 90.

OFFICIAL REGISTER OF HARVARD UNIVERSITY

*[Entered, March 24, 1905, at Boston, Mass., as second-class matter,
under Act of Congress of July 16, 1894.]*

**Issued at Cambridge Station, Boston, Mass., twice a month from September to
March (except November) inclusive, six times a month from
April to August inclusive.**

These publications include :—

The Annual Reports of the President and of the Treasurer.

The Annual University Catalogue.

The Annual Catalogues of the College and the several Professional Schools of the University; the Announcements of the several Departments; etc., etc.

OFFICIAL REGISTER
OF
HARVARD UNIVERSITY

VOLUME IV

MARCH 15, 1907

NUMBER 5

REPORTS
OF
THE PRESIDENT AND THE TREASURER
OF
HARVARD COLLEGE

1905--06



Published by Harvard University
CAMBRIDGE, MASS.

REPORTS
OF
THE PRESIDENT AND THE TREASURER
OF
HARVARD COLLEGE
1905—06



CAMBRIDGE
Published by the University
1907

CONTENTS.

	Pages
PRESIDENT'S REPORT	5-58
REPORTS OF DEPARTMENTS:—	
THE FACULTY OF ARTS AND SCIENCES	59-103
THE COLLEGE	104-113
THE LAWRENCE SCIENTIFIC SCHOOL	114-118
ATHLETIC SPORTS	119-130
THE GRADUATE SCHOOL	131-156
THE DIVINITY SCHOOL	157-162
THE LAW SCHOOL	163-167
THE FACULTY OF MEDICINE	168-170
THE MEDICAL SCHOOL	171-192
THE DENTAL SCHOOL	193-198
THE BUSSEY INSTITUTION	199, 200
THE LIBRARY	201-224
THE GRAY HERBARIUM	225-229
THE BOTANIC GARDEN	230-234
THE ARNOLD ARBORETUM	235, 236
THE CHEMICAL LABORATORY	237-243
THE JEFFERSON PHYSICAL LABORATORY	244, 245
THE DIVISION OF ENGINEERING	246-250
THE PSYCHOLOGICAL LABORATORY	251-256
THE OBSERVATORY	257-265
THE MUSEUM OF COMPARATIVE ZOOLOGY	266-270
THE ZOOLOGICAL LABORATORY	271-275
THE DEPARTMENT OF GEOLOGY AND GEOGRAPHY	276-282
THE DEPARTMENT OF MINING AND METALLURGY	283-289
THE MINERALOGICAL MUSEUM AND LABORATORIES OF MINERALOGY AND PETROGRAPHY	290, 291
THE PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY	292-300
THE SEMITIC MUSEUM	301, 302
THE FOGG ART MUSEUM	303-306
THE GERMANIC MUSEUM	307-310
RADCLIFFE COLLEGE	311-315
APPENDIX	316-358
INDEX	359-364
— — —	
TREASURER'S STATEMENT	1-140

PRESIDENT'S REPORT FOR 1905-06.

TO THE BOARD OF OVERSEERS:—

The President of the University has the honor to submit the following report for the academic year 1905-06, — namely, from September 28, 1905, to September 27, 1906.

James Mills Peirce, Perkins Professor of Astronomy and Mathematics, died at Cambridge on March 21, 1906, in the seventy-second year of his age. He had recently sent in his resignation to take effect March 1, 1907, at which date he would have filled out fifty years of service. His first appointment was that of Tutor of Mathematics in 1854, when he was only twenty years old. He inherited and fully exemplified the true academic spirit, taught with sympathy and enthusiasm, and filled high administrative positions with a large and steady confidence in freedom. From 1872 to 1895 he was the chief executive officer of the new Graduate School. Though a specialist and a teacher in one field all his life, his intellectual interests were broad, and his good-will embraced all just and generous men.

Nathaniel Southgate Shaler, Professor of Geology and Dean of the Lawrence Scientific School, died at Cambridge on April 10th, 1906, in the sixty-sixth year of his age. He was a University Lecturer in 1864-66 and in 1868; Assistant in the Museum of Comparative Zoölogy from 1865 to 1872; Professor of Palaeontology from 1869 to 1888, and Professor of Geology from 1888 till his death. He was Dean of the Lawrence Scientific School from 1891 till his death. As a teacher Professor Shaler was stimulating, inventive, and adventurous. Both in his lectures and in his field-teaching he took a wide range, dealt abundantly in facts, but also used freely his gift for speculation and prophecy. As an administrator he built up first the Department of Geology,

secondly the Summer School, and thirdly the Lawrence Scientific School, with remarkable energy and skill. As a thinker his chief characteristic was fertility. As a man he was sympathetic, vehement, generous, and just. His interests and capacities were extraordinarily various, embracing not only natural history, but also literature, philosophy, and poetry, and the study of all sorts of men.

Christopher Columbus Langdell, Dane Professor of Law, Emeritus, died at Cambridge on July 6th, 1906, in the eighty-first year of his age. He was Dane Professor of Law from 1870 to 1900, Dean of the Law School from 1870 to 1895, and Professor Emeritus from 1900 till his death. As a teacher Professor Langdell's great service was his invention of a new method of teaching law — the case method. He not only conceived the method, but put it into practice by writing the books needed in its application to large classes, and using these books successfully in his own courses of instruction. He thus trained a series of enthusiastic young disciples who in a few years demonstrated that they had a great advantage in their profession over their contemporaries trained in other ways. Some of these disciples became themselves teachers of law, and so spread the case method. Professor Langdell lived to see his invention adopted in most of the leading law schools of the country, and utilized also in teaching government, international law, economics, diplomacy, and medicine. As Dean of the Law School Professor Langdell's main ideas were to raise the standards of admission and graduation, lengthen the period of residence, and compel every candidate for the degree to pursue his studies in an advantageous order, and as means to these ends to enlarge the library and improve its administration. Almost all the measures he advocated were restrictive or repellent; many of them did not commend themselves to the profession; but they resulted, after many years of struggle and doubt, in conspicuous success, demonstrated by the growth of the School, and the careers of its graduates. Professor Langdell was a thoughtful, clear, and original writer on law, and on topics in business which happened to interest him. Nothing could exceed the patience and thoroughness with which he prepared himself to write a lecture, an essay, or a book-notice. His life, like his character, was simple, affectionate, independent, and dignified.

Henry Pickering Bowditch resigned the George Higginson Professorship of Physiology September 1, 1906. Dr. Bowditch was Assistant Professor of Physiology from 1871 to 1876, Professor of Physiology from 1876 to 1903, and George Higginson Professor of Physiology from the establishment of that endowed professorship in 1902 till his resignation. He was also Dean of the Medical School for ten eventful years (1883-1893) of transition and growth. Dr. Bowditch was a physiologist of large experience and wide reputation, a clear and vigorous teacher both in the lecture-room and the laboratory, and a careful and progressive administrator. His term of service covered a period of active reconstruction and progress in medical education, and his good judgment and foresight contributed largely to the success of the efforts of the Harvard Medical Faculty to put their School into a dignified and efficient condition for medical research and teaching, and for public service. He carries with him into his retirement the respect and affection of his associates and his former pupils, and the confidence of the community he has so generously and wisely served.

Allen Danforth, Comptroller, resigned his office in November, 1905, the resignation to take effect on the first of March following. The President and Fellows felt obliged to accept Mr. Danforth's resignation in accordance with his request, although they felt keenly the consequent loss to the University. Mr. Danforth was Bursar from 1874 to 1888, Deputy Treasurer from 1888 to 1898, and Comptroller from 1898 to 1906. In each of the offices he held, he set a new standard of efficiency, brought about progressive improvements in the accounts, archives, and annual statements of the University treasury, and manifested not only the most conscientious exactness in the performance of stated duties, but great devotion in discovering and assuming new tasks which needed to be done. Mr. Danforth knows more about the history of the University property, and about the records of gifts and of the financial acts of the Corporation than any other living person; and since the period of his service has been one of unprecedented property enlargement, his knowledge of this subject is much more extensive than anybody can have had before.

In accepting his resignation the Corporation passed the following vote:—

That Mr. Danforth be requested to continue his researches concerning the University property and records, to make use, at his convenience, of this office, and to continue to give the Corporation the benefit of his unique knowledge of their archives and accounts.

Inasmuch as the University Gazette has been established as an official organ for all University intelligence, deaths and resignations of members of Faculties and other officials will hereafter be published in the University Gazette, and not in the President's Report. Since the President's Report is published but once a year, and in midwinter, it has often happened that the notices of deaths and resignations appeared very late. The University Gazette appears once a week, and is the natural place of publication for resolutions of Faculties, or other University Boards, concerning the members they lose by death or resignation.

The Statutes of the University were amended as follows during the year under review:—

1. By inserting the words "of Arts and Sciences" after the words "Graduate School," wherever the latter appear.
2. By striking out of the second paragraph of Statute VI the words "from among its members."
3. By substituting in Statute IX, "Bachelor in Civil Engineering" for the words "Civil Engineer," and by adding the following words immediately thereafter, namely, "Bachelor in Mechanical Engineering, Bachelor in Electrical Engineering, Bachelor in Architecture, Bachelor in Landscape Architecture, Master of Science in Forestry, Master of Science in Chemistry, Master of Science in Physics, Master of Science in Zoölogy, Master of Science in Geology."

The object of the first of these amendments was to give a more specific official name to the Graduate School, inasmuch as the Schools of Divinity, Law, and Medicine have also become graduate schools, in the sense that they admit those persons only who already hold a Bachelor's degree. The object of the second amendment was to enable persons who are not members of any Faculty to serve on Administrative Boards. The amendment of the ninth Statute was made necessary by the adoption of a new set of degrees to be offered in the Graduate School of Applied

Science, since that School needed degrees having a distinct professional signification and therefore fit to distinguish a long professional training.

In order to relieve their meetings of a mass of administrative details, the President and Fellows, at their meeting of June 26, 1906,

Voted, To establish a Resident Executive Board consisting of the President, the Comptroller, the Bursar, the Inspector of Grounds and Buildings, the Secretary to the Corporation, the Assistant Dean of Harvard College, and the Regent, to serve from June 26, 1906.

Voted, That the duty of the Resident Executive Board be to supervise, control, and amend, subject to the authority of the President and Fellows, the business administration of the University touching the maintenance and improvement of grounds, buildings, and equipment, the methods of accounting employed in the management of the several departments, and in the control of appropriations and laboratory fees at their disposal, the adjustment of dormitory rents, the method of assigning rooms to tenants, and such other matters as the President and Fellows may from time to time commit to them.

These votes were immediately put into effect, and their good results are already manifest. The meetings of the President and Fellows can be devoted to the important matters; and yet through the new Board the details of the University's business can be more carefully and intelligently dealt with than ever before. Moreover, it is an advantage for all the officers belonging to the new Board to meet statedly and become familiar in many respects with the methods, actual work, and remediable defects of each other's offices. Heretofore the several offices represented in the Board have known so little of each other's doings that the needed coöperation between these offices was hard to secure.

At the instance of the Board of Overseers, a joint committee consisting of the President of the University as Chairman, three members of the Board of Overseers, and three members of the Corporation, was appointed "to consider what changes are desirable in the organization and administration of the University, and to report thereon within twelve months from this date if practicable." The members of this committee on the part of the Board of Overseers were appointed on April 11, and the members on the part of the Corporation on April 14. Several actual

conditions in the administration of the University, and some apprehensions concerning the future administration combined to induce the two governing boards to appoint a committee on this subject. It was unquestionable that the President and Fellows were overloaded with work, and that the number of administrative officers at Cambridge, although increased within a few years, was still insufficient to cope satisfactorily with the administrative work of the Faculty of Arts and Sciences. It was also believed that with the rapid growth of the University the duties of the President had become too burdensome; so that he needed either to be further relieved of details, or to be provided with more assistance. It was apprehended that the probable future increase in the variety and number of matters brought before the President would result either in a diminution of efficiency, or in an inexpedient neglect of the larger subjects because of the pressure of the smaller. The committee entered immediately upon the study of the subject submitted to them, taking the advice of active professors and other interested persons, and trying to learn what the actual situation was in the various administrative offices of the University. The committee had made no report at the beginning of the current academic year.

On October 11, 1905, a committee was appointed by the Board of Overseers, "to consider and report on the courses of instruction in charge of the Faculty of Arts and Sciences in respect to their cost, and the propriety of diminishing or increasing their number." On December 13 following, this committee reported that among the courses intended primarily for undergraduates (the lowest group) there were six half-courses on each of which the attendance was less than ten; among the courses intended for undergraduates and graduates (the middle group) there were 70 courses and half-courses, on each of which the attendance was less than ten, and among the courses and half-courses intended primarily for graduates (the highest group) there were 103 courses and half-courses on each of which the attendance was less than ten. Thereupon the Overseers passed a vote requesting the President of the University "to communicate (to this committee) whatever reasons there may be for continuing instruction in the following courses intended primarily for undergraduates, and attended last year by fewer than ten students each." A similar vote was

passed relative to the courses intended for undergraduates and graduates which were attended by fewer than ten students each. No vote was proposed about the courses intended primarily for graduates. The President of the University referred these two votes to the Committee on Instruction of the Faculty of Arts and Sciences. This Committee made a thorough inquiry into the grounds for maintaining every course which stood in the lists provided by the Overseers' Committee and every other course in the lowest and middle groups which for any reason seemed weak. They prepared a complete list of such courses in the lower and middle groups as contained fewer than ten students throughout the academic year 1904-05, and gave some brief reasons for the maintenance of each of these courses. The conclusion arrived at by the Committee on Instruction was as follows:—

The Committee on Instruction believes that every course, large or small, should be carefully weighed. Some courses are experimental, and if unsuccessful are dropped after a fair trial for which a single year may be quite enough. Several of the courses designated by the Committee of the Overseers have been or are to be voluntarily abandoned by their respective departments. In general, however, investigation (which the Committee on Instruction has found highly profitable) strengthens the belief that nearly all our courses are well worth giving.

In May, 1906, the Overseers' Committee made an elaborate report which was summed up in two resolves, which the Committee submitted for adoption. At a meeting held on December 12, 1906, these resolves were somewhat amended by the Board and were finally adopted in the following form:—

1. That, in the opinion of this Board, no new subject or branch of instruction, involving additional expense, ought to be added to the Courses at present in charge of the Faculty of Arts and Sciences, except after mature deliberation by the Governing Boards of the University.
2. That the Faculty of Arts and Sciences be and hereby is requested to undertake a comprehensive revision of the present scheme of instruction, with a view to securing more concentration of effort, increased educational efficiency, and, if practicable, diminished expenditure.

The Overseers' Committee on Government advised in 1905-06 that inquiry be made in regard to the amount of time and thought

given by University teachers to administrative duties; and a special committee of the Faculty of Arts and Sciences was appointed to prepare a reply to a communication from the Board of Overseers on that subject. This Committee made a report to the Faculty near the end of the year 1905-06; and in accordance with its recommendations various reductions in the amount of administrative work asked of teachers have already been made. Thus five Committees on Admission to Harvard College and the Lawrence Scientific School have been replaced by one Committee of five; the Committee on Scholarships and other Aids to Undergraduates has been reduced to an office committee consisting of the Dean and the Assistant Dean of Harvard College, and the Secretary of the Faculty of Arts and Sciences; and the Administrative Boards within the Faculty of Arts and Sciences have been reduced in size. Other measures of this sort are in contemplation. The Committee further recommended "that, if the necessary money could be spared, provision be made for the relief of Divisions and Departments, so far as possible, in their academic correspondence, and in the mechanical work which several Divisions and Departments require." In answer to this recommendation a stenographer has been placed at the disposition of those Chairmen of Divisions and Departments who have heretofore had no such assistance in their official work. The necessary administrative work cannot be distributed evenly among the members of the Faculty of Arts and Sciences. Some members are fit for it and are interested in it; others have no capacity in that direction, and cannot be advantageously employed in such work. The indispensable work is done by those who are interested in it, or who believe that it is a part of their duty to the University; just as the Faculty meetings are maintained by the attendance of the teachers who enjoy them, or think them a regular part of their duty.

In the three years since the opportunity was offered to take degrees in the middle of the academic year, the degrees taken have been distributed as follows:—

	A.B.	S.B.	A.M.	S.M.	Ph.D.	D.M.D.	M.D.	LL.B.	S.T.B.	Totals.
1904 . . .	19	3	2	0	1	1	12	1	1	40
1905 . . .	45	11	8	1	1	2	17	4	0	89
1906 . . .	40	4	2	0	0	0	12	2	0	60

This privilege seems to be most valued in the College and the Medical School; probably because there are more courses which cover only half the year in those Departments than in the others. As yet the existence of this privilege is but little known, and few students make long plans to avail themselves of it. The fact that Harvard University has never permitted candidates for degrees to count a course or two, or a half-course or two, at a time, pursued in discontinuous periods of residence which might extend irregularly over many years, prevents the extensive use at Harvard of the privilege of taking a degree in the middle of the year.

The Faculty of Arts and Sciences accomplished three important pieces of work during the year under review, in all of which its high value as an agency for conference and discussion, and for the selection of the best measure among several was clearly displayed. The first was a recommendation made to the Corporation concerning charging tuition-fees by the course, so that a student who took five or six courses of instruction during any year should pay more than a student who took only four courses; the second was the substitution of a single committee on the admission of undergraduates to Harvard College and the Lawrence Scientific School, whether as regular or as special students, for the five distinct committees which had previously had authority in this field; and the third was the reorganization of the Lawrence Scientific School.

The desire of the Corporation, in asking the Faculty to consider the expediency of charging tuition-fees by the course, was to increase the total receipts from tuition-fees in a just way by requiring students to pay for the instruction they really received in each case, instead of charging merely a uniform lump sum by the year. Under the existing system a man who took his A.B. degree in three years paid \$450 for the instruction which enabled him to obtain his degree, while a four years' man paid \$600 for the same amount of instruction. A student who chose five courses in each year received 25 per cent. more instruction than a student who chose four courses a year; but the first student paid no more than the second. A student in the Scientific School often received instruction in twenty courses or even twenty-two courses on the way to his degree of Bachelor of Science; but he paid no

more than a graduate of the College who received his A.B. for seventeen courses.

The Faculty took up the discussion of this subject on the third of October, 1905, and gave it during several successive weeks the serious attention which its importance demanded. Opinions were much divided, but the following resolution was finally carried by a majority of two to one :

Resolved, That if increase of revenue from tuition-fees be necessary, we recommend, as the least objectionable method of raising it, that a supplementary charge for additional courses be coupled with the present general fee of \$150.

The principal propositions considered during the discussion were put into a printed form, and each member of the Faculty was invited to express his opinion thereon in writing by a Yes or a No, 138 members of the Faculty being on duty in Cambridge at that time. These propositions and the vote on each proposition were as follows:—

1. Pecuniary considerations should be kept in the background as much as possible ; therefore a single tuition-fee is better than an itemized bill.
Yes, 90. No, 26. Doubtful, 8.
2. The charge by the course will increase the student's sense of responsibility in choosing his elective courses.
Yes, 56. No, 43. Doubtful, 25.
3. The three-year man should be charged as much for his instruction as the four-year man.
Yes, 84. No, 29. Doubtful, 11.
4. The method of charging by the course would operate eventually to the disadvantage of the small, expensive courses.
Yes, 65. No, 27. Doubtful, 32.
5. An extra fee for "additional" courses would seriously reduce the number of "additional" elections.
Yes, 90. No, 17. Doubtful, 17.
6. The taking of "additional" courses should not be discouraged.
Yes, 89. No, 23. Doubtful, 12.
7. Raising the tuition-fee would seriously diminish the resort to the College.
Yes, 41. No, 47. Doubtful, 36.
8. Raising the tuition-fee would be contrary to the wishes of the great body of graduates and would be regarded as undemocratic.
Yes, 56. No, 25. Doubtful, 43.

9. A certain percentage of any increased revenue derived from the students should be applied to loans to poor students, thus making the richer students help the poorer.
Yes, 64. No, 42. Doubtful, 18.
10. If a charge by the course is to be made at all, an annual general or residence fee should also be collected from every student.
Yes, 85. No, 17. Doubtful, 22.
11. If a charge by the course is to be made at all, the plan should be confined to Harvard College.
Yes, 78. No, 29. Doubtful, 17.

The Faculty defined additional courses as courses taken in the regular manner in addition to the number required of each student doing full work in his Class, School, or Programme. The Corporation took final action on this subject on December 11, 1905, in the following form:—

Voted,

1. That a supplementary charge of \$20 per course for additional courses be coupled with the present fee of \$150 (first-year students in the Graduate School and first-year Special Students to be allowed to take five courses without extra charge).
2. That every student be held to have definitively chosen the courses standing in his list at the end of the third complete calendar week of the academic year, and to have assumed liability for the tuition-fees chargeable in respect of the same, whether he pursue all of them or not.
3. That any new course brought into a student's list, whether by change of elective or otherwise, after the date named in paragraph 2, be regarded as an "additional course" subject to the supplementary charge; but this rule is not to apply during the first three weeks of the second half-year to changes in half-courses beginning in that half-year.

The explanations and qualifications contained in these votes were suggested to the Corporation by the Faculty.

It is already clear, from the experience obtained during the past summer and autumn, that this limited amount of charging by the course does increase the student's sense of responsibility in choosing his elective courses; and that this sort of just and moderate increase in the tuition-fees is not likely to diminish the resort to either the College or the Scientific School. It should be understood that the student assumes the same responsibility as to attendance and grades, and is entitled to the same privileges, in an

additional study as in those studies which lie within the required amount.

Some subsequent adjustments concerning fees for additional courses were made necessary later in the year by the changes resolved upon in the Lawrence Scientific School, including the establishment of a Graduate School of Applied Science. It was deemed just that students enrolled during 1905-06 in any one of the four-year programmes of the Lawrence Scientific School, or admitted to one of those programmes at the beginning of the year 1906-07, should be permitted, if they transferred their registration to Harvard College as candidates for the degree of S.B. in Harvard College, to do so without incurring the charge of \$20 for each additional course; but this is naturally a limited, transitional provision. After the opening of the current year, the Corporation also voted that all students who enter one of the four-year programmes of the Lawrence Scientific School in the year 1907-08 or thereafter be charged a tuition-fee of \$175 a year, besides laboratory fees. These programmes are prescribed for the degree of S.B. with designation of the field of study, and the number of courses of instruction prescribed in them is larger than the number prescribed for the degree of Bachelor of Arts.

The probable increase of tuition-fees resulting from all the above changes is variously estimated at from \$20,000 to \$30,000 a year; but all such estimates are uncertain, because no one can foresee to what extent the habits of the students in electing courses will be modified by the liability to additional tuition-fees. The student who takes his degree in three years will still obtain a decided pecuniary advantage, because he saves his board and lodging in Cambridge for one whole year.

Mr. J. G. Hart, the Secretary of the Faculty, having had an unusual acquaintance with the existing methods of admitting students to undergraduate courses of instruction under the Faculty of Arts and Sciences, because of his service as a member of various Administrative Boards and Committees on Admission and as an officer in charge of admission examinations, the President requested him in the summer of 1905 to prepare an account of the Faculty's methods of admission to Harvard College and the Lawrence Scientific School. On December 4, 1905, Mr. Hart

submitted a report on methods of admission, which was sent in print to all members of the Faculty. Five different committees were at that time authorized to deal with candidates for admission, viz.:—

1. The committee on admission examinations, which prepared examination questions, and read examination answers for both the College and the Scientific School, but admitted only to registration in the Freshman Class of Harvard College, and only on the basis of examinations.

2. The committee on admission from other colleges, which admitted students without examination on certificates of work done elsewhere to registration as Sophomores, Juniors, or Seniors, but not as Freshmen.

3. The committee on Special Students, which admitted students with or without examination to courses of instruction, but not to candidacy for a degree.

4. The Administrative Board of the Scientific School, which acted (a) as a committee on the admission of regular students by examination, and (b) as a committee on the admission of Special Students either with or without examination.

5. The committee on admission from other Scientific Schools, which admitted students without examination on certificates of work done elsewhere.

As results of lack of coöperation among these five committees, persons were admitted in very different stages of preparation for the work they undertook; there was variety and confusion of standards, and great differences in regard to the strictness with which the Catalogue statements concerning the requirements for admission were interpreted and applied in practice. To remedy these evils, Mr. Hart proposed that one committee on admission be established for all undergraduate courses, and that this single committee deal with each case on its own merits.

Mr. Hart further reported that many of the existing rules concerning admission were merely obstructive, being apparently intended to keep men out of Harvard University, rather than to give every candidate a fair chance to show what he was worth. He specified as obstructive rules the following:—

1. A candidate shall not divide his examinations among more than two years.

2. A preliminary candidate shall receive no credit for any examinations passed, unless he passed examinations rated in the aggregate at eight points.

3. A candidate in June who postpones a portion of his examination until September, may not, except with special permission from the Dean, take over again in September examinations in which he has failed in June.

4. A final candidate who fails to secure admission in June must take over again in September all his examinations.

5. A candidate rejected in June who passes examinations counting less than ten points may not be re-examined in September.

All these rules Mr. Hart characterized as unjust and harmful.

The report further pointed out that although the Faculty voted in May, 1904, to join the College Entrance Examination Board, and to authorize the Committee on Admission Examinations to use its discretion in accepting the examinations of that Board in place of a part of the Harvard examinations, the Committee on Admission Examinations and the two Departments of the Classics and Mathematics had really defeated the purpose of the Faculty in joining the Board; so that the Faculty had failed to establish, as they intended, a more available means of approach to the University than its own admission examinations afforded.

The report also called attention to the fact that when a student who had spent one year in another college was admitted to Harvard College on satisfactory evidence of the work he had done, he was compelled to register as a Special Student; if he applied after two years in another college, he was compelled to register as a Sophomore, this lower rating being always unpleasant and often unjust. This practice — the report alleged — distinctly interfered with the free passage of good students of other colleges into Harvard College. Mr. Hart further expressed a belief that the existing system of admission by examination was too narrow, and consequently inefficient as a means of determining, in the individual case, whether a young man might properly be admitted or not. In support of this opinion, he appealed to the experience of the Committee on Special Students to the effect that the majority of the men rejected by the Committee on Admission Examinations, and afterwards admitted as Special Students, did good work; or, in other words, that the Committee on Special Students saved to the

College many men that the College could ill afford to lose. In support of this opinion, he mentioned that during the years 1902, 1903, and 1904, the Committee on Special Students admitted sixty-seven men after they had been rejected by the Committee on Admission Examinations. Of these sixty-seven persons, only nineteen proved unsatisfactory. During these same years, the Committee on Special Students admitted one hundred and two men on certificates of work done elsewhere. Of these one hundred and two, only eleven proved unsatisfactory. The report concluded with the statement that, in its methods of admission, Harvard College does not act in accordance with its own tradition of dealing considerately with each individual according to his personal aims and deserts.

At the meeting of the Faculty which next succeeded the meeting at which this report was presented, the Faculty passed the following vote:—

Voted, That a single committee be appointed to exercise the function of admitting undergraduate students to courses of instruction under the Faculty of Arts and Sciences, with such powers and such discretion as are at present exercised by the various Committees of Admission.

Four weeks later, after consideration of a different proposal, a motion was carried without dissent that the new Committee on Admission be a Committee of five; and on the 30th of January the President appointed the Committee as follows:— Mr. J. G. Hart, Chairman; Professors Sabine and Haskins, Messrs. Greene (Secretary to the Corporation) and Wells (Assistant Dean of Harvard College). This Committee have already held 69 meetings, and have considered 1,132 applications for admission, and 116 applications for transference of registration from one Department to another. Their report is printed in full in the Appendix (p. 335).

With the approval of the Faculty, the five obstructive rules mentioned above have been abolished; the examinations of the College Entrance Examination Board have been made available for admission to Harvard College and the Lawrence Scientific School; and the relations between the University and the secondary schools have been much improved. Moreover, the admission of students has been conducted more equably than ever before, and with more consideration for the individual applicant; and

especially the requirements for admission to the Scientific School have been dealt with in practice as well as in theory like the requirements for admission to Harvard College.

The requirements for admission to American colleges have never given satisfaction to the secondary schools, and have recently been criticized as too comprehensive and severe. One strong association of schoolmasters has lately urged that the requirements be reduced in several respects. It is therefore interesting to observe, in the report of the new Committee on Admission, that 76 schools sent to Harvard, in 1906, 201 candidates prepared in more than the required number of subjects, and that of these candidates, 126 entered without conditions and credited with extra subjects (p. 342).

The Committee express regret that the number of Special Students who desire instruction, but have no intention of procuring a degree, is not larger than it is. In some of the German universities situated in large cities, the number of such students, attending university instruction but not candidates for any degree, is much larger than at the urban American universities. Thus in the winter semester of 1904-05, the University of Berlin had 6,434 such Special (unmatriculated) Students.

The work of the new Committee on Admission has been admirably done, but as the Committee state in their report (p. 346) "they have discovered more problems than they have solved . . . and they look forward hopefully to a better adjustment of our methods and requirements to school work."

During the winter of 1905-06 there was much informal discussion, among the Professors and Instructors most intimately concerned with the Lawrence Scientific School, of plans for a reorganization of that School. The failure in the preceding year of the effort to bring about a mutually advantageous affiliation between Harvard University and the Massachusetts Institute of Technology stimulated this discussion, as did also the approach of the time when the bequest of Gordon McKay for the promotion of applied science will begin to be available.

At the end of January the discussion came on actively in the Faculty of Arts and Sciences. The main objects in view were the establishment of a Graduate School of Applied Science parallel

with the Schools of Divinity, Law, and Medicine, and the Graduate School of Arts and Sciences; the institution of a degree of Bachelor of Science without any designation of the field of study to be administered by Harvard College; and the bringing about of these changes in the Lawrence Scientific School without losing connection with the numerous schools, public, private and endowed, which were in the habit of sending graduates to the Scientific School.

The Corporation received the recommendations of the Faculty on this subject on the 12th of February, and on the 26th laid down the general lines of the new project in the following votes:—

Voted, That there be established in Harvard College the degree of Bachelor of Science without designation of any field of study, the requirements for admission of students intending to become candidates for this degree to be the same as the present requirements for admission to the Lawrence Scientific School, and the requirements for graduation to be the same as the requirements for the degree of Bachelor of Arts in respect to number of courses required, grade of work demanded, and length of residence;

That there be established in Harvard University a Graduate School of Applied Science;

That the subjects in which degrees may be granted in this Graduate School be, for the present, Engineering, Mining and Metallurgy, Architecture, Landscape Architecture, Forestry, Applied Chemistry, Applied Biology, and Applied Geology;

That a Bachelor's degree or its equivalent be required for admission to the Graduate School of Applied Science;

That the degree of Bachelor of Science with designation of the field of study on completion of any one of the present four-year programmes of the Lawrence Scientific School continue to be offered until the further order of this Board.

The Board of Overseers assented to these votes on the 14th of March following. The Faculty had already laid down the following rules for their own government:—

1. That candidates for the new degree of Bachelor of Science be in the charge of the Administrative Board of Harvard College.

2. That students who intend to enter the Graduate School of Applied Science should select their studies, while undergraduates, with the advice of the Departments in which they intend to enroll.

3. That recommendations for the degrees to be granted in the Graduate School of Applied Science originate with the Divisions or Departments in which the candidates have respectively studied.

By the beginning of the present academic year, it became clear that the degree of Bachelor of Science in Harvard College would be sought by a considerable number of candidates on the terms proposed; that the Graduate School of Applied Science would receive at once a small number of students; that the former four-year programmes of the Lawrence Scientific School, leading to a degree of S.B. with designation of the field of study, would be likely to be maintained for several years to come; and that the Graduate School of Applied Science would be recruited by holders of the A.B. as well as of the S.B. Inasmuch as the total number of students in Harvard College and the Scientific School is greater in 1906-07 than it was in 1905-06, it does not seem probable that the changes made in the Scientific School and its transitional condition have caused any diminution in the resort to the School. It is obvious that the new organization prepares the way for a very advantageous expansion and improvement of the teaching of applied science, whenever the McKay bequest shall begin to become available.

Since the opening of the current year, two of the former programmes in the Lawrence Scientific School have been abolished, all the students in these programmes having been transferred to Harvard College. These two programmes are the programme in General Science and the programme in Anatomy, Physiology, and Hygiene.

When the legislation had been adopted under which Harvard College is to give the degree of Bachelor of Science, and the candidates for this degree are to be under the control of the Administrative Board of Harvard College, the question arose whether such members of Harvard College being candidates, not for the degree of Bachelor of Arts, but for the degree of Bachelor of Science, could properly receive what is called beneficiary aid, that is, small loans or gifts from funds which antedate this amalgamation of the College and Scientific School, or even the establishment of the Scientific School itself. This question being presented to the President and Fellows, they decided that this new sort of student in Harvard College ought to be eligible for beneficiary aid.

The new arrangements tend to unite for purposes of administration two bodies of students already closely bound together by their choice of studies and their social relations, namely, the College undergraduates and the Scientific School undergraduates. The effect of continuing the present four-year programmes of the Scientific School is to give students the alternative of obtaining in four years a degree of Bachelor of Science in a designated field of study, as, for example, architecture or mining engineering, or, on the other hand, of obtaining the degree of Bachelor of Science without designation of any field of study in three, three and one-half, or four years, and then pursuing a course of two or more years in the Graduate School of Applied Science, leading to a professional degree which indicates a high degree of training for a special field. The degrees of the Graduate School of Applied Science will of course stand for a training longer by at least one year, and also broader than the training represented by the four-year S.B. The superior degree will cost about \$100 more than the other in tuition-fees, to which must be added the living expenses of at least one additional year.

Inasmuch as the sum of the periods required for a College training and a Law School training, or for a College training and a Divinity School training is now from six to seven years, and the time required for a College training and a Medical School training is from seven to eight years, it seems probable that five or six years may profitably be given to training for any scientific profession. Indeed, the scientific professions cannot expect to reach the level of the older professions, until the young men who adopt the scientific professions receive as long and thorough a training as their contemporaries receive for Divinity, Law, or Medicine. At present, young men who have not completed even four years of training are tempted to enter the scientific professions prematurely by the keen commercial demand for their services. It will be the aim of Harvard University to put the scientific professions on an equality with the older ones, so far as the training provided for them is concerned.

The Corporation, being desirous to impose appropriate fees for all services rendered to individual students outside of the instruction for which the annual fee of \$150 is charged, were

glad to accept the suggestion made in 1904-05 by the Faculty of Arts and Sciences that fees should be charged for both examinations for admission, the preliminary and the final, in accordance with the practice of the College Entrance Examination Board, and also that a fee of \$3 should be charged for an examination to make up a condition at entrance, and the same fee for an examination to make up an omitted examination in College, and for an examination in anticipation of a subject of College instruction, this latter examination if passed enabling the student to count the course for his degree.

The \$5 fee for the final admission examination to Harvard College and the Lawrence Scientific School, in addition to the \$5 fee for the preliminary examination, could be collected from only a few persons in June, 1906, because notice of the imposition of this fee had been too short. This fee hereafter may be expected to yield not less than four thousand dollars a year. The \$3 fees yielded in the year under review \$3,667. These are all fees paid for extra services, and they are paid only by those students who receive those services. When this system is given full effect, which may be expected in the year now current, it will more than defray all the expenses of the admission examinations, of the examinations to make up conditions received at the admission examinations, of omitted college examinations, and of anticipatory examinations. The justice and propriety of thus charging appropriate fees for examinations have not been questioned in any quarter.

An interesting proposal made by Professor T. W. Richards was studied by the Faculty of Arts and Sciences at several meetings during the year, and was the subject of much private discussion. It was a proposal to the effect that the degree of Bachelor of Arts might be won by passing examinations not in a specified uniform number of courses, but in a smaller number of courses with high grades, or a larger number of courses with low or medium grades, or, in other words, that a high scholar should attain his bachelor's degree with fewer courses than a poor scholar. The general principle might be given effect in a great variety of ways, and possesses considerable attractions. It had bearings, however, on many other Faculty policies, as, for instance, on the obtaining of the degree in three years, on obtaining the degree

with distinction, and on increasing the revenue from tuition-fees by charging for additional courses. The Faculty once adopted the general principle by a small majority; but when they came to the consideration of details, they were so discouraged by the apparent complexity of the subject, that they voted by a large majority to postpone it indefinitely. Nevertheless, the Faculty may decide to return to this subject, when some of the problems now in the experimental stage have been disposed of.

An interesting table in the Report of the Dean of the Faculty (p. 90) shows how the enrolments in the different Departments of Instruction may vary in two consecutive years in consequence of fluctuations in the number of students and in the relative attractiveness of the offerings of the several Departments. It makes a difference in the enrolments what professors are on leave of absence, what new teachers join the College staff, and what changes of subjects occur from year to year in the offerings of each individual teacher. It is obvious that some pecuniary difficulties of administration result from these inevitable and in the main desirable fluctuations.

Table XII (p. 144) in the Report of the Dean of the Graduate School of Arts and Sciences shows clearly which Divisions in that School furnish each year a considerable number of persons who are recommended for the higher degrees. They are ancient languages, modern languages, history and political science, philosophy, chemistry, and biology; the modern languages and history and political science far surpassing all others. In the most advanced School of the University, the selection of subjects of study is very similar to the selection made by the undergraduates of Harvard College. The growth of the Graduate School is obviously hindered (p. 155) by the existence of a considerable tuition-fee, the School being in direct competition with graduate schools elsewhere in which there is either no tuition-fee or a much smaller one.

The students of the Divinity School come from many colleges and many theological seminaries. In 1905-06, 25 colleges and 12 theological seminaries were represented among the 42 students.

The Summer School of Theology, which is resorted to chiefly by settled ministers and persons interested in Sunday School work, has during the last eight years contained representatives from 16 different religious denominations. In the summer of 1906, ministers belonging to 11 different denominations attended the School, and only 9 out of these 53 ministers belonged to the Unitarian and Universalist bodies. All the evidence points to the conclusion that the University has succeeded in establishing a polydenominational Divinity School.

In March last, the Faculty accepted the invitation of the Trustees of the Lowell Institute to provide a course of public lectures on theology in King's Chapel, Boston, in the winter of 1906-07, the lectures to treat various theological themes in a scientific manner without technicalities. This course has been highly successful from every point of view.

Langdell Hall, the new building for the Law School, will, it is hoped, be finished by the opening of the year 1907-08. Only about three-fifths of the projected building is to be constructed now; but the land for the remainder of the building will of course be reserved. The interior arrangements of the Hall have been carefully studied by members of the Faculty as well as by the architects, and it is hoped that they will prove thoroughly satisfactory. The Corporation had the benefit of the advice of a committee of three eminent architects both as to the site and as to the design of the building. The Hall is to be fireproof, and its exterior is made of a cream-colored stone. In the final letter (1 July, 1904) of the advising architects, Messrs. Robert S. Peabody, Francis W. Chandler, and George Russell Shaw, about the building and its site, the following passage occurs:—

If built here (on the actual site) we should certainly have the building of a grey tone to harmonize well with Austin Hall. We think this might be gained in stone, but we should feel entirely satisfied with grey bricks and limestone that would tone well with Hastings as well as Austin Hall.

As to the architectural style that would be employed, our united feeling is that the general quiet appearance of the new quadrangles will be enhanced if the buildings surrounding them have no striking variations of style.

The Corporation sanctioned the plans approved by this Committee, although the design and scale of Langdell Hall and the

material adopted for its exterior did not seem to them to harmonize with any of the surrounding buildings.

Since 1904-05 there has been a distinct pause in the growth of the Law School, but the numbers are now larger than they were in 1902-03 or in any previous year. The slight losses have occurred chiefly in graduates of Harvard College, the number of graduates of other colleges having continued to increase. The explanation suggested by the Dean of the School (p. 166) is probably correct; for in June, 1906, a majority of the graduating class of Harvard College were intending to go into business of one sort or another.

The new buildings of the Medical School were ready for occupancy at the close of the academic year under review, and a special celebration of this important event in the history of the School was arranged for Tuesday and Wednesday, September 25 and 26, 1906. The exercises of the first day were held in the new buildings, those of the second day in Sanders Theatre. The exercises of Tuesday took place in the open air, on the terrace in front of the Administration Building at the head of the quadrangle about which the five buildings stand. Professor J. Collins Warren gave an address on "The Enlarged Foundation." The President of the University accepted the buildings from the architects. Dean William L. Richardson spoke on behalf of the Faculty of Medicine, Professor Thomas Dwight for "The Laboratories," and Professor Frederick C. Shattuck for "The Clinics." A few words of solemn dedication were then pronounced by the President. A clear sky made the whole scene beautiful and memorable. On the second day, the celebration was held in Sanders Theatre, where the President of the University gave an address on the Future of Medicine, and Professor W. H. Welch, of Johns Hopkins University, an address on the Unity of the Medical Sciences, and ten honorary degrees were conferred, one of Doctor of Arts, one of Doctor of Science, and eight of Doctor of Laws. Five of the recipients were Americans and five were foreign visitors. The degree of Doctor of Arts was then conferred for the first time by Harvard University, as the result of brief discussion in the Corporation and Board of Overseers as to an honorary degree suitable for the architect of the new buildings. This incidental action,

taken without any careful previous consideration, is likely to have far-reaching consequences. The celebration was closed by a largely attended dinner of the Harvard Medical Alumni Association in Memorial Hall. The whole of the second day's celebration emphasized the close University connection of the Medical School, a connection which has been of high value to both the School and the University for thirty-five years past. Both of the public ceremonies and the gathering of the Medical Alumni were dignified and adorned by noble music, admirably rendered by a chorus mainly composed of graduates of the Medical School.

The buildings and the permanent funds which accompanied them constitute the largest single addition to the resources of the University which has been placed in the hands of the Corporation since it received its Charter in 1650. Up to October 1, 1906, the land on which they stand has cost with interest approximately \$371,000, and the buildings have cost with interest approximately \$2,492,000, including the grading of the grounds and the cost of the fixtures and furniture to that date. Four of the five buildings may properly be called laboratories; the fifth is devoted chiefly to administration and to the Warren Museum. They were brought into existence by the prophetic insight and the zeal of a few of the University's teachers of Medicine, and by the public spirit and intelligent generosity of a few score men and women who welcomed the opportunity to do some lasting and far-reaching good in the world; and the great achievement was made possible by the high standing of the Medical Profession in Boston and the vicinity for more than a hundred years. They are devoted to the teaching of the medical and surgical arts and to the pursuit of the biological and medical sciences. In the near future, these buildings for teaching and research will be surrounded by four new hospitals, this grouping of the School with active hospitals having been part of the original plan at the time the purchase of the land was made by the University. Three of these hospitals take each a portion of the land which the University originally bought between Huntington and Longwood Avenues. The buildings of the School have been very thoughtfully adapted to their uses. Doubtless some changes of detail will need to be made, and some new constructions not of large amount may prove to be desirable, but

it will doubtless be possible to close the construction account before the end of the current academic year.

The Corporation hope that the additional endowments which came to the School with the new buildings will prove to be sufficient for carrying on the School in a modest way in the new buildings; but it is already plain that to utilize thoroughly the ample equipment with which the School is now furnished, additional endowment will be indispensable. All the activities of the School, and especially its activity in medical and surgical research, ought to be greatly enlarged; but these enlargements cannot be effected without considerable additions to the existing endowments of the School.

Among the new endowments of the Medical School which were received in connection with its great undertaking to erect new buildings are several permanent endowments to support members of the staff. Thus, the Curatorship of the Museum has been endowed by the Henry Jackson Fund, a Professorship of Clinical Surgery has been endowed by the John Homans Fund, and a Professorship of Neurology by the William Story Bullard Fund. An Instructorship in Theory and Practice has also been permanently endowed, and ought to prove a stimulating example of a kind of endowment desirable in many other Departments of the University. The Corporation gladly accepted these endowments of indispensable functions in the Medical School, and gave proof of their hearty belief in the permanent value of all such endowments, in whatever department, by assigning the Henry Villard Fund to the partial support of the new Professorship of the History of German Culture, as soon as that Professorship was established. The Henry Villard Fund is an unrestricted Fund received by the University in 1902.

The Faculty of Medicine took an important step when they decided in the year under review to open all their courses of instruction to Special Students and to students in other Departments of the University. This opportunity is a valuable one, not only for students who have not yet attained the degree of Doctor of Medicine, but for practitioners who are already at work. The Division of Surgery and the Department of Theory and Practice have each established a laboratory for giving students and practitioners special training in the chemical, microscopical, and

bacteriological methods employed in diagnosis and in medical research. This action recognizes the obvious fact that medical and surgical practitioners have become dependent in their practice on the laboratory examinations through which they make their diagnoses, and are guided to the proper treatment. In the working of the new elective system in the fourth year, it turns out that the Seniors use a large range of topics, but concentrate most on six important subjects taught in that year, viz., anatomy, clinical medicine, theory and practice, pediatrics, surgery, and obstetrics. When one considers that thirty elective courses were offered to choice by Seniors, this concentration on a few courses is only the more suggestive.

Dr. Charles S. Minot was transferred from the Professorship of Histology and Embryology to the new James Stillman Professorship of Comparative Anatomy, and his former Professorship ceased to exist, although the instruction heretofore given in histology and embryology was maintained. It was a part of the understanding with Mr. J. D. Rockefeller at the time his gift of \$1,000,000 was received, that this Professorship of Comparative Anatomy should have good quarters, and should be supplied with at least one instructor and one assistant. In the present restricted state of the School, it has been desirable to postpone for a little while the appointment of any new officers in the Department; but it will be the care of the Corporation at an early day to make the new Professorship as effective as possible.

The briefest examination of the Report of the Dean of the Medical School (p. 171) will satisfy anyone that the School is now putting a large part of its energy into medical research. All Departments of the School, including Clinical Medicine and Clinical Surgery, exhibit this tendency. The diminution in the number of students attending the School, consequent on the requirement of a degree for admission, has enabled all the teachers, but especially the laboratory teachers, to give less time to direct teaching and more to investigation. Taken in connection with the fact that far the greater part of the instruction which a medical student now receives is given in laboratories, including the laboratories connected with hospitals, this new development of medical investigation fully accounts for the proportion of laboratories in the new buildings of the Medical School. The lists of

papers published by the teachers and students of the Medical School during the year 1905-06 will convince anyone who examines them that medicine and surgery for human beings are hereafter to be furthered largely by the study of the other animals with which man is in contact, the other animals ranging from bacilli and microscopic parasites to large mammals.

The use, in teaching medicine, of Professor Langdell's method of teaching law is rapidly developing. In 1902 there appeared a collection of 169 cases entitled "Studies in Neurological Diagnosis"; in 1904 appeared a smaller volume entitled "Case Teaching in Surgery"; in 1905 a case book on "Orthopedic Surgery"; and in 1906 "Case Teaching in Medicine." In all these books the data of actual cases are clearly presented to the students for study and comparison, and each exercise in the book becomes a sort of consultation over a case between the students and their teacher. The method drills the student in quick, practical, constructive thinking on the data supplied to him, and supplies the teacher with well-considered material for giving very effective lessons in diagnosis, prognosis and treatment. The authors of the books mentioned are all teachers in the Harvard Medical School.

The number of students entering the Dental School declined again in 1905-06, so that the pecuniary condition of the School was even more difficult than before; whereupon the Professors and most of the other teachers of the School voluntarily abandoned their salaries. Nothing can exceed the devotion of these gentlemen, and of the Alumni of the School in general, to the best interests of this Department of the University. They knew that the high standard of admission to the School would reduce the number of students, and yet they advocated that measure and still support it. They feel, however, that the School is laboring under a very serious difficulty in that it has no adequate building, that is, no spacious, well-lighted, and well-equipped laboratories in which to teach operative and mechanical dentistry. Other American schools of lower standard, some older and some newer than the Harvard School, are well equipped in this respect. The Faculty and the Alumni of the Harvard School believe that the immediate erection of a new building is indispen-

sable to the success of the School. A good site has been bought in immediate proximity to the new buildings of the Medical School, but that very neighborhood implies that the building must be fireproof and handsome, and the money to erect it is still lacking, in spite of long-continued and strenuous exertions on the part of several members of the Faculty. The usual public services of the School have been carried on with efficiency, and new services have been undertaken, such as the examination of the teeth of the inmates of a Day Nursery and of the pupils of a large public school in Brookline. Useful laboratory experiments have also been made on dental materials and tooth-washes, and on the action of the saliva. A summer course in dentistry was offered in the summer of 1906 for the first time since 1898. All the teachers in the Summer School volunteered their services. A large proportion of the graduates of the School have agreed to contribute yearly to its needs from their professional earnings, and it is evident that this contribution will reach \$2000 a year. In short, the Dental Professors and Instructors and the Dental Alumni are doing their utmost for the School, and the question is whether their efforts are to be rewarded by the adequate endowment of the School. The School is now forty years old, and its entire permanent funds do not exceed \$40,000.

The situation of the University Library is briefly this: — Books continue to be received in larger numbers than ever before (p. 206), but the income available for administrative purposes has increased but slightly, in spite of the fact that the Corporation has assigned to the Library the Henry T. Morgan Fund (unrestricted), and a portion of the Henry L. Pierce Fund (unrestricted). At present, the number of volumes added to the Library in a year approaches 19,000; the income available from funds and gifts for the purchase of books is about \$24,000; the number of cards added annually to the public card catalogue is about 40,000; and the total cost of administration approaches \$45,000 a year. A large part of the cost of administration is of course for care, supervision, and attendance; and charges of this sort should increase with the number of books in the Library and the number of users. The Librarian's estimate (p. 203), that additional income of from \$2000 to \$5000 a year is urgently needed for administrative purposes, is a moderate one.

The number of books borrowed from the Library during the year has declined for three years past, while the number used in the building has slightly increased. The books on open shelves in the reading-room, together with those in the various special reference libraries in Harvard Hall, Warren House, Emerson Hall, Pierce Hall, Lawrence Hall, Robinson Hall, and elsewhere, amount altogether to over 72,000 volumes, to which direct access can be had by all students who desire to look at them; and most of these books are accessible both day and evening. This distribution of readers, and the corresponding increase in the number of immediately accessible books, are advantageous changes. The summer use of the Library, like all scholarly activities in summer, increases from year to year, and the lending of volumes from the Library to other colleges, schools, and public libraries, and occasionally to individuals residing at a distance, also increases. Much of the usefulness and attractiveness of the University for its students and the public depends on the size of the Library, on the promptness with which it obtains the newest interesting books, and on the efficiency and liberality of its administration. Any need of the Library is therefore a need of the whole University.

The Chemical Laboratory continues to do a large amount of teaching, both elementary and advanced, and of varied work in chemical research, in spite of the fact that Boylston Hall is not adequate to the needs of the Department. The advanced work is restricted because of the deficiencies of the building (p. 239).

The attention of the Overseers is especially invited to that portion of the report of the Director of the Botanic Garden which relates to the Harvard Botanical Station in Cuba (p. 232). This station has now been in successful operation for about six years. It is supported wholly by Mr. Edwin F. Atkins, of Boston, on his estate near Cienfuegos. The Station is intended for the production and study of new varieties of sugar-cane; but it deals with other important economic plants of the tropics, and it cultivates a considerable number of vegetables in order to ascertain whether the range of Cuban horticulture may not be profitably increased. The Station now possesses several hundred new varieties of sugar-cane, all of which merit the careful study they are receiving.

The following extract from the report by Professor Hollis for the Division of Engineering deserves the special attention of the Overseers, and of all Harvard graduates (p. 247):—

The preparation of students for professional work under the present system of instruction seems to be in the main sufficient, as is proven by the readiness with which they find employment after graduation. The Engineering Division has always taken an interest in seeing that its graduates are well placed as soon as possible after Commencement; and up to this time no graduate has failed to obtain a situation to start with. During the last two years there have been many more places open than there have been men to fill them, and the Division is in constant receipt of requests for additional men, graduated from the University, for employment in engineering positions. Many such applications have to go begging every year. That our graduates are usually acceptable to their employers is shown by good reports of their work. On the Civil Service examinations for places connected with important public works they have been strikingly successful.

While Engineering has been steadily making its way in the University, and our graduates have become known to employers of engineers, the graduates of the Academic Department of Harvard of classes between 1870 and 1880 have a very inadequate knowledge of the relatively large place occupied by Engineering under the Faculty of Arts and Sciences.

Emerson Hall was dedicated and opened for use in the middle of the year 1905-06. It provides in a spacious and handsome way for the Department of Philosophy, including the courses on Social Ethics, and its convenient lecture-rooms are used by several other Departments, so far as they can be without intruding on the Department of Philosophy. The entire third story is devoted to the Psychological Laboratory. The whole building was handsomely furnished and thoroughly equipped by the use of gifts for these purposes from two benefactors who desire that their names shall not be mentioned. The special library for philosophy and the library for social ethics are well arranged on the second story of the Hall, and special gifts have made it possible to add liberally to the number of books in these libraries, and to provide a librarian and adequate assistance in each library. The Hall is a very valuable addition to the resources of the Faculty of Arts and Sciences. A description of the Psychological Laboratory by its Director will be found in the annual report on the Laboratory (p. 252).

Mr. Alexander Agassiz continues to make large gifts to the Museum of Comparative Zoölogy. They have been applied to one enlargement of the building, to the renovation of the building from cellar to roof, to the building of new cases, and to the purchase of some very remarkable specimens, such as a magnificent Manchurian tiger, three hartebeests, and a beautiful specimen of the Okapi, a rare animal related to the giraffe and found in the forests of the Congo. The publications of the Museum for the year amounted to 162 quarto pages, 731 octavo pages, and 161 plates, of which 110 were quarto and 51 were octavo.

The Department of Mining and Metallurgy is conducting an interesting experiment in what is called the intensive system of instruction. Instead of carrying on five courses at a time in different mining and metallurgical subjects, the student carries on one course at a time, giving about a fifth of the year to each course. It is the experience of the Department that more work is accomplished in this way, and the interest of both student and teacher is better sustained. An additional advantage is that a student may enter even late in the year and yet finish a complete body of work. On the other hand, time lost in such a course through illness or otherwise cannot be made up in the same year. The experiment is tried under some disadvantages, because the other courses of instruction, which mining and metallurgical students need to attend, are carried on in the usual manner of three periods a week. The results of the experiment have been so satisfactory to the Department that the system will be extended as far as possible to the higher courses which are to form part of the Department's programme in the new Graduate School of Applied Science (p. 284).

In this Department, summer work is required of all students, and is carried on in considerable variety (p. 286). The Chairman of the Department states vigorously (p. 286) the needs of the Department. They are, briefly, enlargements of the Rotch Building, a better library, the extension of the summer instruction, and a small mine of its own, the mine to be some abandoned property in New England which could be bought and equipped for a moderate sum, and maintained as a laboratory at a small annual cost.

One of the interesting gifts of the year was received by the Peabody Museum of American Archaeology and Ethnology through Professor Putnam from the American Museum of Natural History in New York, under the circumstances set forth in the following letter:—

MY DEAR PROFESSOR PUTNAM:—

President Jesup feels that the American Museum ought to do something to recognize the fifty years that you have spent in scientific work at a sister institution, and I am therefore authorized to state, for him, that if you will commission Mr. Willoughby, or some other representative, to come to New York, at our expense, we will give him permission to select ethnological material sufficient to fully illustrate the life of the inhabitants of the Philippine Islands, leaving you to make such disposition of this collection as you may think best.

With expressions of the most sincere personal regard,

I am ever,

Very truly yours,

(Signed) H. C. BUMPUS, *Director.*

This transaction is a delightful instance of appropriate recognition of the services of a veteran student, and of friendly coöperation between sister institutions.

The report of the Director of the Fogg Art Museum (p. 303) shows clearly the increasing value and usefulness of the Museum. The character of the collections—originally prints, casts, and photographs—has been improved by gifts of original objects of high merit from graduates and other friends; and the extent of the collections has so increased that some enlargements of the building cannot be long postponed. The Director suggests coöperation with the Classical Department which has begun a collection of Classical antiquities.

The Emperor William Fund for the benefit of the Germanic Museum has reached the proposed sum of \$25,000 and its income has begun to be available for the maintenance and improvement of the collections. The Handbook of the Museum prepared by Professor Francke contains a succinct description of the whole collection now installed. His Majesty the King of Saxony has caused to be prepared for the Museum a reproduction of the

Romanesque pulpit of the Church of Wechselburg, and this beautiful monument of thirteenth century North German sculpture is already set up in the Museum. When two additional monuments already ordered shall have been set up, there will be no room left in the present building for further accessions of large objects, and the need of a much larger building will become imperative. It is a matter of congratulation that the present building, which had just been abandoned by the Engineering Department in favor of Pierce Hall when the great gift of the Emperor William was shipped to Cambridge, has proved to be extraordinarily well adapted to the exhibition of the present collection.

The enlargement and improvement of the grounds and buildings of Radcliffe College were much advanced in the year under review. In the year 1907-08, the College will probably begin to enjoy the use of a new dormitory and a new library, and both these buildings will improve substantially the equipment of the College. Doubtless gifts of this sort will continue to be received; and they cannot come too soon. More dormitories, lecture rooms, and laboratories could be immediately utilized; but the most pressing need of the College, as the Dean has repeatedly pointed out (p. 315), is undoubtedly a large fund, the income of which could be used to command whatever instruction its students may desire.

The position of Radcliffe College among institutions for the higher education of women is unique in this country. Its tuition-fees are high, and its aids for poor students are few. Its teachers are all men, and the instruction it offers covers the whole range from the elementary courses appropriate to Freshmen to the most advanced instruction needed by a candidate for the Doctorate of Philosophy or Science. Its students have free access to the library and collections of a great University; and it is situated near the centre of a large urban population. Moreover, its standards of admission and graduation are identical with those of Harvard University. In the early years of its existence, the young women who attended it encountered a good many mechanical hardships and difficulties, and had very little common life; but these obstacles to its success have now been removed through the great improvement of its "plant." It is ready for a considerable expansion.

The report of the Committee on the Regulation of Athletic Sports to the President for the year 1905-06 (p. 119) contains much interesting matter. At least twenty-five tennis courts ought to be laid out immediately on Soldier's Field. A new boat-house of very substantial construction, the gift of the family of the late George W. Weld, will be ready for the coming season. The work of draining and filling the Longfellow Marsh has been continued, and the buildings on Soldier's Field have been well maintained. The cost of the Stadium to date has been \$309,210.45, and the debt on the Stadium was expected to be about \$50,000 on January 1, 1907. The Committee are of the opinion that the athletic expenditures in general reveal an unnecessary extravagance. The Committee state that it was at the initiative of Harvard that the following improvements were made in the rules concerning eligibility:—

1. No student shall be eligible for a University team unless he has completed a full year's work, and passed satisfactorily his examinations for promotion.
2. No student shall be eligible who holds a degree which will admit him at least to the Senior Class.
3. No Special Student shall be eligible until
 - (a) he has satisfied entrance requirements equivalent to those required of Freshmen;
 - (b) has completed a full year's work;
 - (c) and is taking during the year of competition a full year's work.
4. No student shall represent one or more universities or colleges in athletic contests more than three academic years.

These regulations exclude Graduates and Freshmen from University teams in all the sports. Taken together they amount to a great improvement, because they prevent fraudulent membership of College teams and confine membership in them to undergraduates. The Committee called attention to the increase in their duties, and expressed the opinion that the Chairman of the Committee should be enabled to devote his whole time and attention to the duties of that office. They suggest that the Graduate Treasurer ought to be a permanent officer with a good salary, and they further recommend the appointment of a permanent paid Secre-

tary, preferably some one familiar with the University administration. If the receipt of large amounts of gate money is to continue, there would seem to be no reason why these three paid officials should not be appointed by the Corporation and made responsible for the regulation of athletic sports, with or without an advisory committee of graduates and undergraduates.

The Summer School of Arts and Sciences dates officially from 1874, when courses in chemistry and botany were first recognized and described in the University Catalogue. In connection with the Museum of Comparative Zoölogy summer instruction had been earlier offered in geology and zoölogy. No more courses were offered until 1887, when physical education was added. During the four years following, German, French, surveying, physics, and English were added; and in the next year, seven new subjects appeared on the list. Since that year, additional courses have been provided in almost every year, until in the summer of 1906 seventy-five courses were offered in languages, mathematics, architecture, the sciences, pure and applied, education, ethics, sociology, psychology, philosophy, history, pure design, landscape painting, music, and shopwork. From the beginning these summer courses have been open to men and women, and no formal entrance examination has been imposed. More than half of the courses offered may be counted for the bachelor's degree by students in Harvard College, the Lawrence Scientific School, or Radcliffe College. They may be so counted also by any persons who register later in one of these colleges. The courses are chiefly resorted to by teachers already in service, by young men and women who are preparing to be teachers, and by students already in the University; but they are suitable for a large variety of mature students who are at liberty to give six weeks to the exclusive study of one subject or of two kindred subjects. The number of persons who attended the courses on chemistry and botany in 1874 was 45; the number who attended the Summer School of 1906 was 815. More and more members of the University staff get interested in the summer instruction, and find it a useful and enjoyable part of their year's work.

Not only the Summer School of Arts and Sciences, but also the Summer Schools of Theology and of Medicine, are now firmly

established as permanent parts of the University. The Engineering Camp at Squam Lake, which is kept open eleven weeks, proves itself more and more valuable; and the field work done in summer by students under the supervision of competent instructors in mining, metallurgy, forestry, geology, physiography, and anthropology increases from year to year. In short, the summer vacation is more and more utilized for serious purposes of instruction.

China having now committed itself definitely to the introduction of a new system of education modelled on that of Japan, the central government has been urging the provincial administrations to send students to western countries. Dr. Charles D. Tenney, an American who, before the government had decided upon the general adoption of the modern education, had organized at Tien Tsing, for the Chinlu Viceroy, a technical school called the Pei Yang University, and had organized and directed the secondary schools of the metropolitan provinces, after that decision was taken, was requested by the northern minister, His Excellency, Ynan Shih-Kai, to take charge of an educational mission to America and England. Money was provided in 1906 for thirty-four students, in addition to whom ten others joined the mission at their own expense. This arrangement was sanctioned by the central government; and it was also provided that twenty students should be sent over every year for an indefinite period at government expense, all to be under the direction of Dr. Tenney. These students are to be divided between Great Britain and America, as the Director may deem wise. They are to receive thorough training in law, different forms of engineering, scientific agriculture, or medicine, before they return to China.

Dr. Tenney brought the whole group to Cambridge in July last with the exception of one student who was detained at the Pacific Coast on account of an alleged disease of the eyes. Rooms for them were engaged in advance in private houses, and the whole group took their meals at Memorial Hall so long as it was open. Special instruction was provided for them as follows: —

(1) A class of seven students received instruction in the elements of English, the effort of the instructor being to help the students to express themselves in English readily and idiomatically, and at the same time to give them some training in the study of such

English writings as are the basis of the examination in English for admission to College. These students had read no English book except Meyer's Ancient History. The books used by them in the class were The Sketch Book and Franklin's Autobiography. Daily themes were also required, the subject being optional. The students generally wrote about some experience in sight-seeing. Every theme was corrected, rewritten, and then again corrected. The instructor, Alfred L. Fish (A.B. 1899, Third-Year Law), says:—

“As a whole the class pursued the course regularly, very earnestly, and with marked and steady progress. Their average ability seemed to me considerably greater than that of the usual high school class of the same size. One or two of the members did careless work, and showed signs of being demoralized by an excess of sight-seeing. On the other hand, two or three in the class were exceptionally able students, sturdy workers, logical, and at the same time keenly alive to all that was artistic or humorous in the works we read.”

(2) Thirty more advanced students in English were divided into two sections of fifteen each, the work consisting principally of preparation for the entrance examination in English for Harvard.

(3) Fourteen students received careful instruction in German in preparation for the entrance examination in elementary German. The instructor for these classes, (2) and (3), Mr. W. J. C. Sharpe (A.B. 1904, First-Year Medicine), writes as follows:—

“Regarding the mental ability and interest of these students, I have nothing but the highest praise. Their command of English, especially of the written language, was remarkable. Their chief difficulty was the choice of words. Their spelling was excellent. In German, they experienced some difficulty in the translation of German into English, owing to the fact that most of them were obliged to use Chinese as the medium between the two languages. In closing, I desire to mention again the interest which they displayed in their work. I have never seen students so eager and desirous to learn.”

(4) A class in French, with special reference to the elementary requirements for admission to Harvard College, conducted by Professor A. B. Myrick of the University of Vermont, was apparently less successful. Professor Myrick was sometimes at a loss how to deal with his students, because of their habitual repression of emotion, and their lack of responsiveness to explanations. They

seemed to him nervous and timid while at work, and to present strong contrasts of brightness and dulness. Professor Myrick wrote:—

“None of them seem to be the equal of a first-class American student in language work.”

The whole group remained in Cambridge for the summer after the close of the Summer School, but in September were distributed among several colleges and technical schools. Fifteen remained at Harvard University, distributed as follows:—

8	in Harvard College, candidates for S.B., Sophomore Class.
5	“ “ “ “ A.B., “ “
1	“ “ candidate for A.B., Freshman Class.
1	in Medical School, First Year.

These young men from China, doubtless selected with care, well-supported, given time enough abroad to obtain a thorough training, and full of ambition to serve their country, constitute a remarkable and admirable group whose progress and destiny will be watched by the Harvard Faculty with keenest interest for many years to come.

The annual exchange of professors between the University of Berlin and Harvard University established in December, 1904, was successfully carried out in the year 1905–06, Professor Francis Greenwood Peabody serving in Berlin, and Professor Wilhelm Ostwald in Cambridge. In the spring of 1906 it was agreed that the visiting professor at Harvard for the year 1906–07 should be Professor Eugen Kühnemann, of the University of Breslau, and the visiting professor at Berlin should be Professor Theodore W. Richards of Harvard University. Professor Richards's subject in Berlin will be physical chemistry, the same which Dr. Ostwald taught at Harvard last year. Professor Richards's service in Berlin is to cover the second half of the year. Ample laboratory facilities have been kindly provided for him. Professor Kühnemann's subjects in Cambridge are German Literature in the 18th Century and the German Drama of the present Day. His courses on these subjects run through the first half-year and count for the degree. Dr. Kühnemann has also given a shorter course on the “Young Goethe, and Goethe's Faust,” open to the public, and

largely attended. Professor Kühnemann's public lectures have been greatly enjoyed, and his courses in the German Department have proved very stimulating and profitable.

No exchange of professors has thus far been arranged except with Germany; but through the initiative and generous support of Mr. James H. Hyde, a lecturer at the Sorbonne and some of the provincial universities has been furnished by Harvard University now for three years. In 1904-05, the visiting lecturer was Professor Barrett Wendell; in 1905-06, Assistant Professor George Santayana; and in 1906-07, the lecturer is Assistant Professor Archibald C. Coolidge. This service has proved interesting and instructive to the gentlemen who have accepted it; but it will be harder to maintain an annual course of lectures in France by American professors than it is in Berlin.

The game of foot-ball was somewhat improved by the new rules extorted last year from its creators and managers by the pressure of public opinion. Under the new rules, the game is more visible than before to both officials and spectators, and it is livelier and therefore more interesting to watch. It gives appropriate opportunities to several kinds of natural athlete; and it affords fewer opportunities for foul play and brutality, whether deliberate and planned, or sudden and accidental, than the game under the former rules afforded. Public opinion also compelled the employment of a better kind of official at intercollegiate games, the kind that intended to enforce the rules; although in respect to the number of officials, the recommendation that two umpires be employed was not observed at most of the principal games. The injuries inflicted on the Harvard players were of the same character as were suffered under the former rules, but they were much fewer in number. This improvement was mainly due to the "neutral zone" between the opposing rush lines, and to the requirement that ten yards instead of five be made in three downs. Many injuries were caused, before the "neutral zone" was established, by the rush of the backs into a solid mass of men. It is a moving line into which the backs now plunge. The ten-yard rule made much less profitable the "bucking" of the line. There was more kicking, and fewer violent impacts of masses of men. Hence the diminution in the number of injuries. The

open plays did not cause any increase in either the number or the severity of the injuries received. The spirit of the game, however, remains essentially the same. It is properly described by the adjective "fierce," — a term which is commonly applied to the game by its advocates. It therefore remains an undesirable game for gentlemen to play, or for multitudes of spectators to watch. No game is fit for college uses in which men are often so knocked or crushed into insensibility or immobility that it is a question whether by the application of water and stimulants they can be brought to and enabled to go on playing. No game is fit for college uses in which recklessness in causing or suffering serious bodily injuries promotes efficiency, and so is taught and held up for admiration. In hunting, mountain-climbing, boating, and other sports which involve danger, it is not recklessness but good judgment and prudence combined with boldness which promote efficiency. An extreme recklessness remains a grave objection to the game of foot-ball, and it also makes basket-ball and hockey, as developed in recent years, undesirable games.

The immoralities or brutalities connected with particular sports are, however, much less injurious to the educational institutions of the country than the gross exaggeration of all competitive sports which is now working incalculable harm to schools, colleges, and universities. This evil began in the colleges, and has worked down into the secondary schools. It is for the colleges to set the example in repressing it. The means of repression are at hand; it is the will and the courage to repress which are lacking. The first step should be to limit closely the number of intercollegiate contests in each sport. Two such contests in each sport would be ample to maintain interest in all the sports. The preparation for these two contests should be procured solely through domestic competitions, the number and variety of these home competitions being much increased. The only proper object of intercollegiate competition is the development of the largest possible number of players in each sport at each institution. It has been proved in rowing, that one intercollegiate contest is sufficient to develop in the contesting colleges a large amount of rowing and of home competition. From the educational point of view, the value of any sport is to be tested chiefly by the number of persons who habitually take active part in it for pleasure during

the educational period, and enjoy it in after life. Tried by this test, foot-ball is the least valuable of all college sports.

The exaggeration of athletic sports, and particularly of intercollegiate games, leads to a great waste of money on coaches, travel, training-tables, and supplies. The total direct expenditures for athletic sports at Harvard College in the year 1904-05 was \$63,487.12, of which sum foot-ball took more than a quarter, and base-ball more than a sixth. That sum of money would have paid the salaries of twelve full professors. The direct expenditure for athletic sports is, however, much less than the indirect expenditure, in which students, graduates of the University, and the public become involved. Every important game of intercollegiate foot-ball causes the spectators to expend hundreds of thousands of dollars in travel and gate money; and every considerable base-ball game causes similar heavy expenditure, although not on the same scale as for foot-ball. Fortunately, the gate money taken at the games in which Harvard students have a part is sufficient to meet all the direct expenses of athletic sports at Harvard, and to leave a surplus for the improvement of the athletic grounds and buildings. For many years the Treasury of the University has paid nothing whatever towards the cost of the competitive athletic sports, and neither the playgrounds nor the buildings on them have been a charge on the University. The fact that it is not the University's money which is wasted does not, however, invalidate the statement that the exaggeration of athletic sports leads to a great waste of money. One of the sources of waste of money is the belief that no team or crew can do its best unless it is stimulated by a continuous roar of cheering from at least a thousand throats. While spontaneous applause for good playing on either side is an exhilarating feature of competitive sports, continuous, pumped cheering during good and bad playing alike is absolutely unnatural, and has no counterpart in the contests of real life. For games at a distance from home, this so-called "support" is very costly: but, even when they hear it, it answers no useful purpose with the players. The most intense players hear it only at intervals. On the part of the spectators, it is a weak, hysterical, and utterly ineffective demonstration; yet it is held up as a patriotic duty to loyal students in every college.

The highly competitive sports are defended by many college graduates, members of Faculties, and school teachers on the ground that the sports in general promote, first, bodily health, and secondly, morality. There are elements of truth in this contention. It is true that active exercise, even though exaggerated, is healthier than inertness and sloth, and that brutality is better on the whole than effeminacy. It is also true that any form of labor or play which fatigues, and gives full play to the superfluous energies of youth, contributes to the maintenance of a sound mind and a firm will in a vigorous body; but all these good effects can be obtained in two hours a day of moderate activity in sports free from brutality, cheating, and recklessness. The sports which are so exaggerated as to exhaust the players, and make them incapable of intellectual work in that part of the day when they are not playing, are not so wholesome as the more moderate sports. Both at school and at college the popular competitive sports now take away the time and interest of the players from physical exercises which can be combined with intellectual exercises, such as country excursions on foot, visits to industries, or field study of any of the different forms of natural history. The American secondary schools have distinctly lost ground within the last twenty years; because the afternoons are so generally devoted throughout the year to competitive games of ball, and the boys' daily conversation runs on the games, instead of on their reading, their walks, or the sights and sounds of real life in city or country. The same distractions have impaired the intellectual quality of college life.

It is also maintained by many superficial, and some serious, thinkers, that the violent or fierce athletic sports protect the players against immorality and vice. Temporarily they may, because of the rules of training, just as a prize fighter is temporarily protected from himself while he is in training; but no doctrine can be more dangerous, if a permanent defence is intended or hoped for. The only trustworthy defence against low vice of every form, including all the most ruinous vices, is moral conviction and the firm will to abide by moral convictions. The young man who is taught that he may substitute for moral convictions the physical fatigue which results from sport is in a dangerous situation. As a defence, eight hours a day of steady

productive labor is vastly better than the furious spasms of competitive sport; but it is a familiar fact that eight hours a day of strenuous labor will not protect the young man who has no moral defences against the indulgence of his lower propensities and passions. Mere bodily health and vigor will afford no adequate defence against even the lowest forms of vice, much less against the vices which look to young men pleasant, or generous, or adventurous. An extreme form of the argument in justification of exaggerated and brutal sports runs as follows: "Many young men are brutes, and they had better have brutal games than brutal vices." The fatal defect in this argument is that brutal games will not protect brutal young men against brutal vices. Such men can only be protected from destruction by giving them moral motives which will master their downward physical proclivities.

It is high time that the whole profession of teaching in school, college, and university united to protest against the present exaggeration of athletic sports during the whole period of education, and especially to bring competitive sports between schools and between colleges within reasonable limits, and to establish the supremacy of intellectual and moral interests over physical interests in all institutions of education. The object of attack should be, not athletic sports, but the gross exaggeration of them.

The *Agamemnon* of Aeschylus was presented in the Stadium last June by students of the University under the direction of the Greek Department, and especially of a committee consisting of Professors Herbert W. Smyth, Charles B. Gulick, and William F. Harris. The committee worked long and hard, and had invaluable assistance from many colleagues and friends; but to the actors and supernumeraries with their substitutes belongs the largest share of the credit for the admirable presentation of the tragedy. It was a long and strenuous year's work to prepare the presentation. The actors, supernumeraries, and chorus had to be carefully trained, the music had to be created and practised, the stage, costumes, and equipments had to be designed and constructed, and the best conditions for hearing in the Stadium had to be studied and utilized. The students who played the principal parts performed great feats of memory. Two performances were

given, one on a somewhat rainy afternoon, and one under a bright sun. Both were eminently successful in all respects; and it remained doubtful whether the cloudy or the clear sky were better suited to an effective presentation of the tragedy. The business management of the undertaking was so good, that the surplus of receipts over expenditures was considerable. This surplus will be used for the benefit of the Greek Department. The performance proved that 6000 to 8000 persons can easily hear a good human voice in the southerly end of the Stadium under the open sky, if a long and high sounding-board be provided behind the speaker.

The following scholarships are maintained by Harvard Clubs, not from the income of funds they established, but by cash payments periodically voted:—

Buffalo,	for the College or Graduate School since 1908 .	\$200
Chicago,	“ “ Graduate School since 1893	300
Cleveland,	“ “ College or Scientific School for five years, 1906–1910	300
Louisiana,	“ “ Graduate School for the present	250
Rocky Mountain,	“ “ College or Graduate School, occasionally since 1890.	
St. Louis,	“ “ Graduate School since 1900	300
San Francisco,	“ “ Graduate School since 1886	300

To raise this money locally, and to maintain at Harvard a promising scholar from the Club's locality, is a natural and very useful function for any Harvard Club. By such action the Club is brought into pleasant relations with the local schools and colleges, and extends the influence of Harvard. It is probable that all the strong Clubs will follow in time the good examples already set.

In June, 1906, a gift of \$250 was received from Mr. Warren Delano, Jr. (S.B. 1874), for the purpose of providing a meritorious student in the new Graduate School of Applied Science with a Scholarship for one year. Heretofore a Scholarship has generally been considered a downright gift, or an income earned in some sense by good scholarship. The Corporation voted (June 26) that the new Scholarship should be treated as a loan, to be repaid as soon as the recipient had established an adequate earning power. Since that date, several other scholarships have been received to be similarly treated,—that is, they are to be considered loans

and not gifts. It is not improbable that in the future many benefactors will prefer to lend money to meritorious students rather than to give them money outright, on the ground that a loan made with good feeling after intimate conversation, on the condition that it be repaid after a suitable interval, is wholesomer for the recipient than a gift. Of late years an increasing distrust has been manifested of the effect of gifts, even for the purpose of education, when it is impossible that the gift should be accepted with any vivid sense of personal obligation to the giver.

Some intelligent experiments were made in 1905-06 on the leasing of the College dormitories. Attractive common-rooms were provided in Conant Hall and the middle entry of Thayer, and hot water heating apparatus was put into the rooms in Conant, Perkins, and Hastings without raising the rents in proportion to the new capital invested. The total rents in Holyoke House and Conant Hall, in spite of improvements made in the buildings, were reduced by \$2555. Conant Hall was assigned to students in the Graduate School of Arts and Sciences by preference. It is these dormitories outside the College Yard, including College House, in which the College has suffered during the last five years a serious loss of rent. The above-mentioned experiments have been reasonably successful, since the College will probably receive between \$5000 and \$6000 more during the current year for rents of rooms in its dormitories than it received during the preceding year.

The fact is, that the needs and desires of students in regard to their rooms have changed very much during the past fifteen or twenty years. The ordinary student occupies his room as a study less than formerly. He passes much of his time in the laboratories and reading rooms provided by the University; he takes his exercise out of doors or in the gymnasium; hence an open fire is a less available mode of heating a college room than it used to be. The student who has been away from his room nearly all day needs to find it warm when he comes to it in the evening. It does not answer his purposes to build a fire then. Again, there are many more students in the University than there used to be who propose to spend there only one, two, or three years (p. 135). Such men prefer furnished rooms to unfurnished,

and if they come from a distance, they often prefer a small single room to a larger double room in which a chum is needed. In some of the private dormitories these new needs have been met by allowing three, four, or five students to occupy a suite of three or four rooms; but the College dormitories are not well adapted to such use. The following table shows the great change which has taken place within forty years in the Cambridge departments of the University concerning the lodgings of students.

LODGINGS FOR STUDENTS OF THE CAMBRIDGE DEPARTMENTS
OF HARVARD UNIVERSITY IN 1866-67 AND IN 1906-07.

(RADCLIFFE COLLEGE IS NOT INCLUDED.)

	In College Halls.		In Private Halls.		In Private Houses.		Not lodging in Camb.		Totals.	
	1866-67.	1906-07.	1866-67.	1906-07.	1866-67.	1906-07.	1866-67.	1906-07.	1866-67.	1906-07.
Undergraduate departments.										
Harvard College and the Lawrence Scientific School	309	707	13	888	145	537	13	325	480	2452
Graduate departments.										
Graduate School of Arts and Sciences and Graduate School of Applied Science	1	110	1	29	6	192	..	85	8	416
Divinity School	12	16	..	2	1	16	2	5	15	39
Law School	8	123	1	162	129	838	19	69	157	692
Totals	330	956	15	1076	281	1083	34	484	660	3599

It is obvious that the College dormitories play a much smaller part than they formerly did in the provision of rooms for students, that private halls now lodge more persons than the College halls, and that private houses do likewise. Forty years ago there was but one private hall; now there are twenty. Private houses have held their business very well, more than a third of all the students in Cambridge still occupying rooms in such houses. An experience of 270 years with dormitories has demonstrated that they are not good property for the College, it having proved impossible to earn on them so good an income as the mass of the general investments of the University yields. The President

and Fellows have not built a dormitory with their own money since 1870-71, and are not likely ever to build another, unless with money given for that express purpose. In spite of the fact that college life in large dormitories is more enjoyable, and, on the whole, more profitable than those students can expect to obtain who live in widely scattered houses, a much larger proportion of students than formerly have no lodgings in Cambridge (see columns 7-8 in the above table). This change has resulted from the improvement in the means of transportation within the metropolitan district. A larger proportion of the University's students than formerly can now conveniently live at home.

The work of the Appointments Office for graduates and undergraduates increases in scope and value as its functions become better known. In the year under review the number of calls to supply men for permanent positions was 971, of which the Office filled 444, divided as follows:—

Permanent teaching positions	260
Permanent educational administrative positions	15
College positions (not teaching)	77
Permanent business positions (non-scientific)	35
Permanent business positions, scientific	57, of which 42 were engineers' positions.

The number of temporary positions filled, mostly by undergraduates, was 1,085. One hundred and ninety-six teachers were supplied to teach one subject, and forty-seven to teach two or more subjects. Three-fifths of the permanent positions were in Massachusetts; New York came next with about one-tenth, and the rest were widely scattered over the United States and foreign parts. The Secretary says that "there is yet much to be done in bringing the Office into communication with the leading business houses in different parts of the country, and in encouraging students of the various Graduate Schools of the University to register at the Office." The Office would be helped by systematic arrangements to bring the Secretary into personal communication with Harvard graduates throughout the country, and with the schools, colleges, and business houses which desire its services.

The Constitution of the Association of the Alumni of Harvard College was amended at the annual meeting on Commencement,

June 27, 1906, in a manner which enlarges considerably the membership of the Association. Article I of the Constitution now reads as follows:—

“Article I. All graduates of Harvard College of at least one year's standing, and all persons who have received any honorary degree from the College, are members of this Association, or are entitled to be so regarded. By ‘Harvard College’ is meant the departments under the charge of the Faculty of Arts and Sciences, as at present constituted, and by ‘graduates,’ all holders of a degree received from any one of said departments before or after the formation of the Faculty of Arts and Sciences. All members of the Faculty of Arts and Sciences not otherwise members of this Association shall be honorary members with full privileges.”

This Article brings into the Association all holders of a degree received from Harvard College, the Lawrence Scientific School, or the Graduate School of Arts and Sciences, and makes honorary members with full privileges all members of the Faculty of Arts and Sciences not otherwise members. It adds to the membership of the Association about 800 Bachelors of Science, about 30 Civil and Mining Engineers, nearly 400 Doctors of Philosophy, and about 70 Doctors and Masters of Science. It also adds to the Association a considerable number of Masters of Arts, who are not Bachelors of Arts of Harvard College. The Association by this action confirms the new definition of Harvard College used by the Committee which raised the Teachers' Endowment Fund, and recognizes the identity of motive and interest among all the departments under the charge of the Faculty of Arts and Sciences, and their essential unity.

Inquiries are not infrequently made of the President and other officials as to the best form of bequest or gift to Harvard University, sometimes for small endowments and sometimes for large ones. The purposes of intending benefactors are so various, that no single form of bequest or gift can be often used without modification. Nevertheless, guidance can be found in the forms of bequest or gift actually used by benefactors, and thus brought into the records of the Corporation. The following forms of bequest or gift are good types of recent benefactions.

Near the end of his long life, James C. Carter, of the Class of 1850, wrote the following clause in his will:—

Eleventh: I give and bequeath to the President and Fellows of Harvard College the sum of one hundred thousand dollars, which I now wish may be applied in the establishment and maintenance in the Law School of the University of a professorship of General Jurisprudence for the especial cultivation and teaching of the distinctions between the provinces of the written and unwritten law; but I do not intend to control the discretion of the donees in respect to the application of this fund. I mention my present preference. And I further give to the same President and Fellows a further sum of one hundred thousand dollars for the general purposes of the University.

On the 29th of January, 1906, the Treasurer reported to the Corporation the receipt of twenty thousand dollars from the estate of Francis Skinner, of the Class of 1862, under the following clause in his will:—

Fourteenth: I give to the Arnold Arboretum of Harvard University twenty thousand dollars to be applied to its maintenance as may seem best.

At the same meeting of the President and Fellows, the following letter from Robert W. Sayles, of the Class of 1901, was laid before the Board:—

I hereby give to the President and Fellows of Harvard College the sum of five thousand dollars (\$5,000.00) to establish a fund, the income of which I desire to be expended under the direction of the Department of Geology and Geography or of the Curator of the Geological Section of the University Museum, at Cambridge, Mass., preferably for the acquisition, preparation, and maintenance of collections suitable for a museum of geology.

In the acquisition of these collections I would have the income of this fund used not only for the purchase of materials, but also to defray the cost of journeys and the other necessary expenses connected with the collection of materials.

I desire that the materials so brought together should be replaced from time to time, where desirable, by better examples, and that the duplicates and discarded materials be used at the discretion of those in charge of the Museum, for exchange or for the teaching collections of the laboratories of the Department of Geology and Geography.

At the Corporation meeting of June 26, 1906, the Treasurer presented the following letter from Edward Reynolds, Chairman of the Committee of the Class of 1881 to raise a Twenty-fifth Anniversary Fund of the Class:—

Enclosed is cheque of E. W. Atkinson and Gardiner M. Lane, Treasurers, No. 5 on the City Trust Co., for \$82,500 and sundry pledges

guaranteeing payment of \$81,276.66 to you on various dates, a total of \$119,776.66.

I am requested by the Committee on the Anniversary Fund of the Class of 1881, to hand these to you, and to ask that they be accepted by the President and Fellows of Harvard College on the understanding that the cash now paid, to which shall be added the sums pledged when and as paid, shall constitute a fund, to be known as the "Twenty-fifth Anniversary Fund of the Class of 1881." The use of the income of this fund is to be unrestricted; that is, the President and Fellows may use the income in any way in which they may see fit.

While three of these forms of bequest, or gift, specify special objects, all the forms leave a large discretionary power to the President and Fellows or their representatives. The letter from Mr. Sayles covers all the desirable conditions of any gift for the support of collections, including excellent directions about the renewal of specimens and the disposition of duplicates or discarded materials. The trustees of most museums, whether of natural history, trades, or fine arts, would be thankful if all their endowments were held on such wise terms. The expression used by Mr. Carter with reference to his preference as to the disposition of his fund for a Law Professorship is highly suggestive,—"which I *now* wish." Much experience and observation, during his long career as a lawyer, of the difficulties to which perpetual prescriptions give rise, went into those four words.

The conditions of the Anniversary gift of the Class of 1881 are the widest used by any Class thus far.

The value of unrestricted gifts, or of gifts which leave large discretion to the President and Fellows, is always mounting and becoming more generally recognized; for the trust which the President and Fellows administer is not merely a trust to execute the will of past benefactors who have designated the particular objects of their bounty,—it is much more than that. They must, indeed, keep unimpaired the money they received from past benefactors to provide for the objects specified by them; but they must also have free money to devote to new objects and new methods of instruction not yet visible perhaps to any intending benefactors, though well known to the experts who are directing the operations of the University. They must keep the entire institution eminently serviceable to a rapidly changing society, provide for the future wants of the new generations, and preserve and promote

every special trust confided to them by maintaining a progressive policy which keeps in view the interests of the University as a whole. It is the most far-seeing universities, and those most prompt to meet new needs, which will serve their communities best and deserve best of the republic. For such uses the University needs free money. At present Harvard University has only two sources of free money, — namely, unrestricted funds and tuition-fees; and neither of these sources is at present at all adequate. In the competition between American universities, and between American and foreign universities, those universities will inevitably win which have the largest amounts of free money. It remains to be seen whether the governmental supply, as in state universities, or the endowment supply is to prove the better.

The gifts of the year for capital account were \$1,859,798.23. The gifts for immediate use were \$358,319.98.

GIFTS OF FOUR YEARS.

	Permanent Funds.	Immediate Use.
1902-03	\$1,340,876.28	\$415,542.12
1903-04	633,988.55	875,575.21
1904-05	1,455,131.97	875,295.59
1905-06	1,859,798.23	358,319.98
	<u>\$5,289,795.08</u>	<u>\$2,524,732.90</u>
Permanent Funds	\$5,289,795.08	
Immediate Use		2,524,732.90
Total for four years		<u>\$7,814,527.98</u>

The deficit of 1905-06 in the combined accounts of the University, College, Scientific School, Graduate School of Arts and Sciences, and Library was \$59,296.31, the largest ever experienced. Deficits in these combined accounts were charged to the Stock account (so-called), until that resource was exhausted. They were then charged to the Insurance and Guaranty Fund. The deficit of 1905-06 exhausted that fund and left unprovided for a balance of deficit amounting to \$27,291.25. After much consideration the Corporation voted (Dec. 17, 1906) to charge this balance to the Henry L. Pierce Fund, a fund which is unrestricted as to both principal and income.

The Corporation have now used up quick capital amounting to \$488,841.69 by this process of charging annual deficits to unrestricted funds, as follows:—

Stock account	\$239,813.55 (maximum in 1839)
Insurance and Guaranty Fund . .	221,736.89 (maximum in 1877)
Henry L. Pierce Fund	27,291.25 (part of)
Total	<u>\$488,841.69</u>

In the President's Report for 1902-03 the history of the two unrestricted funds which have now disappeared was given, and it was demonstrated that the Corporation had obtained between 1827 and 1903, out of unrestricted income and the unrestricted capital in the Stock account and the Insurance and Guaranty Fund, improvements in grounds, buildings, and equipment amounting to more than \$420,000. (See Mr. Danforth's table, p. 324, in the Report for 1902-03. A few items in the table are to be deducted because they did not represent permanent improvements.) Since 1903, permanent improvements have been paid for out of unrestricted money which much more than account for the difference between \$488,842 and \$420,000.

It seems strange that, with such a remarkable inflowing of gifts for several years past, it should be necessary to discuss the means of overcoming a large annual deficit in the departments under the charge of the Faculty of Arts and Sciences. The explanation is simple. Of the eight millions of gifts in four years—above reported—two millions went to increase the scale of salaries for teachers in that Faculty. By the end of the current year less than \$5000 of the income of the Teachers' Endowment Fund will remain unused; but the higher scale of salaries remains, a new and heavy burden on the Treasury. On account of the comparative youth of the members of that Faculty, the routine increases of salary are numerous, and not all of these could properly be charged to the Teachers' Endowment Fund during the years 1905-06 and 1906-07. After the current year the Corporation must provide for all routine increases according to the new scale. Again, at least two millions of the gifts went into the new Medical School Buildings during the years 1902-06. These admirable buildings entail heavy, new annual charges. Further, out of the gifts of the four years \$1,137,000 were additional endowments for

the Medical School, without which it could not possibly live in its new buildings. Finally, of the balance of the four years' gifts — about \$2,678,000 — all but a small fraction went to special objects designated by the givers, of which all were useful, but none tended to fill up or remove the annual deficit in the account of the University, College, Scientific School, Graduate School, and Library. Every annual list of gifts in the Treasurer's Statement illustrates this method of giving to the University. A multitude of good objects, large and small, are provided for; but the increasing cost of instruction, administration, and equipment is not often remembered. In the new endowment of the Medical School these primary necessities have been borne in mind.

The financial situation suggests two questions: (1) How are annual deficits to be dealt with hereafter? and (2) How is more free money to be obtained? It is, of course, extremely undesirable to use up unrestricted funds bearing a benefactor's name by charging annual deficits to them. That use of unrestricted funds, if habitual, would discourage the giving of such funds. The heavy expenditures on real estate improvements and on equipment within the past ten years were really compulsory, and many such expenditures are likely to be forced on the Corporation in the future by the rising scale of comfort and efficiency in the community at large. At any rate, it is often bad economy to restrict closely or postpone such expenditures, heavy though they be. Moreover, these expenditures are uncontrollably irregular.

EXPENDITURES FOR COLLEGE PUBLIC BUILDINGS, NOT VALUED ON THE TREASURER'S BOOKS, THE EXPENSES OF WHICH ARE NOT SEPARATELY ENTERED IN TABLE II OF THE TREASURER'S STATEMENT.

In 1902-03.	In 1903-04.	In 1904-05.	In 1905-06.
\$42,023.61	\$34,564.95	\$40,014.36	\$34,719.37

EXPENDITURES FOR COLLEGE DORMITORIES NOT VALUED ON THE TREASURER'S BOOKS.

In 1902-03.	In 1903-04.	In 1904-05.	In 1905-06.
\$26,748.92	\$30,191.52	\$48,639.79	\$38,927.74

If the only answer to the first question is — do not incur deficits, it will be necessary to reduce the number of salaried

positions in the College. This process has already begun. When Professor Paine resigned, and Professors Peirce and Shaler died, their places were not filled. If the second question could be answered, the first would be. The only free money the Corporation has is the unrestricted funds and the tuition-fees. It is the custom to use tuition-fees for that department only in which they are earned; so that the fees are not completely free money. The existing unrestricted funds are inadequate to bear even the charges of broadest interest, such as the salaries of the President, Treasurer, Comptroller, and Bursar, and the expenses of the Corporation and Board of Overseers. The only way to increase the amount of such funds is to emphasize the urgent need of them, and then to treat them with such steady consideration that they will have either an assured permanence as funds or permanent visible representations, like named buildings, book-plates, and learned publications.

The attention of the Overseers and the Alumni is respectfully invited to the following Reports of the Deans of the Faculties and Schools, and the Directors of the Scientific Establishments. They contain much significant educational matter which cannot even be alluded to in the President's own Report.

CHARLES W. ELIOT, *President*.

CAMBRIDGE, January 9, 1907.

REPORTS OF DEPARTMENTS.

THE FACULTY OF ARTS AND SCIENCES.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR, — I have the honor of presenting a report on the work of the Faculty of Arts and Sciences for the academic year 1905–06.

Besides the President, the Faculty contained seventy Professors, two Associate Professors, fifty-three Assistant Professors, one Lecturer, twenty-two Instructors, the Assistant Dean of Harvard College, and the Recorder, — in all one hundred and fifty members.

Instruction in 1905–06.

With the following list of courses of instruction that were actually given under the authority of the Faculty, I print a statement of the number and the classification of the students in each course. The figures are those officially returned to the Recorder by the several instructors at the close of the academic year, and take no account of persons who, regularly or irregularly, attended the exercises and did the work of a course without being officially recognized as members of it. The abbreviations are those ordinarily used in such lists :—

COURSES OF INSTRUCTION GIVEN IN 1905–06.

Semitic Languages and History.

For Undergraduates and Graduates :—

1. Professor LYON. — Hebrew (elementary course). Explanation of parts of Genesis and of the Book of Psalms. 2 Se., 4 Ju., 2 So., 1 Di. Total 9.
6 hf. Professor LYON. — History of Babylonia and Assyria.
1 Se., 1 Ju., 2 Di. Total 4.
12. Professor LYON. — History of Israel, political and social, till the capture of Jerusalem by the Romans.
1 Gr., 4 Se., 10 Ju., 9 So., 1 Fr., 1 Sp., 1 Sc. Total 27.
16. Professor G. F. MOORE. — History of Jewish Literature from the Earliest Times to 200 A.D.
1 Se., 1 R., 4 Di. Total 6.
18. Professor TOY. — History of the Hebrew Religion, with comparison of other Semitic Religions.
1 So., 1 Sp., 3 Di. Total 5.

- 14 *hf.* Professor TOY. — History of the Spanish Califate. The Barbary States; Moslems in Sicily; Lectures on the Literature; The Korān.
2 Se., 6 Ju., 2 Di. Total 10.

Primarily for Graduates:—

2. Professor TOY. — Hebrew (second course). Interpretation of parts of the Prophets and the Poetical Books.
1 Gr., 2 Se., 3 So., 2 Sp., 1 Di. Total 9.
- †3 *hf.* Dr. HAYNES. — Jewish Aramaic. Interpretation of parts of Ezra, Daniel, and the Targums.
1 So., 1 Sp., 1 Di. Total 3.
- †3a *hf.* Dr. HAYNES. — Classical Aramaic (Syriac). The Peshitto Version of the New Testament.
1 Gr., 1 So., 1 Di. Total 3.
- 3b. Dr. HAYNES. — Classical Aramaic (advanced course). 1 Di. Total 1.
- †5. Professor LYON. — Assyrian (second course). — The Laws of Hammurabi; Contracts from the time of the Hammurabi Dynasty. 1 So. Total 1.
- †7. Dr. HAYNES. — Arabic. Brünnow's Chrestomathy. 2 Se., 1 Di. Total 3.
- †8. Professor TOY. — Arabic (second course). The Moallakāt; Motenebbi; Ibn Haldun; the Korān.
1 Sp., 2 Di. Total 3.
- †20b. Professor TOY. — Semitic Verb-Forms. 3 Di. Total 3.

Indic Philology.

For Undergraduates and Graduates:—

- 1a *hf.* Professor LANMAN. — Elementary Sanskrit. 1 Gr., 1 Se., 1 Ju. Total 3.
- 1b *hf.* Professor LANMAN. — Elementary Sanskrit (continued). Episodes from the Mahā-Bhārata.
1 Gr., 1 Se. Total 2.

Primarily for Graduates:—

- †2 *hf.* Professor LANMAN. — Vedic Sanskrit. Introduction to the language and literature of the Vedas. Hymns of the Artharva-Veda, the Rig-Veda, etc.
2 Gr. Total 2.
- †3 *hf.* Professor LANMAN. — Vedic Sanskrit. Continuation of the study of the Vedas.
2 Gr., 1 Instr. Total 3.

The Classics.

Primarily for Undergraduates:—

GREEK.

- G. Dr. C. N. JACKSON. — Course for Beginners.
1 Se., 2 Ju., 2 So., 3 Fr. Total 8.
- B. Professor J. H. WRIGHT, and Asst. Professors GULICK and HARRIS. — Greek Literature. Plato; Lysias; Xenophon; Elegiac, Iambic, and Lyric Poets; Euripides. Lectures on the History of Greek Literature.
1 Ju., 5 So., 48 Fr., 2 Sp. Total 56.
- E *hf.* Asst. Professor HARRIS. — Greek Prose Composition (first course).
4 So., 9 Fr. Total 13.
1. Asst. Professor HARRIS. — Greek Literature. The Period of Athenian Supremacy. Herodotus; Aeschylus; Plutarch; Thucydides; Aristophanes; Sophocles.
3 Se., 2 Ju., 9 So., 2 Fr. Total 16.

2. Asst. Professor GULICK. — Greek Literature. Aristophanes; Thucydides; Aeschylus; Sophocles. 2 Se., 1 Ju., 13 So. Total 16.
- 3 hf. Asst. Professor GULICK. — Greek Prose Composition (second course). 6 Gr., 1 Ju., 9 So. Total 16.

LATIN.

- B. Professor HOWARD, Associate Professor C. P. PARKER, Asst. Professor E. K. RAND, and Dr. WALDEN. — Latin Literature. Livy; Horace; Terence. 2 Ju., 17 So., 104 Fr., 2 Sp. Total 125.
- E hf. Dr. WALDEN. — Latin Composition (first course). Translation of English narrative. 1 Se., 3 So., 12 Fr. Total 16.
1. Professor MINTON WARREN and Associate Professor C. P. PARKER. — Latin Literature. Tacitus; Horace; Catullus. 1 Se., 2 Ju., 21 So. Total 24.
2. Asst. Professor E. K. RAND and Dr. WALDEN. — Latin Literature. General View of Latin Poetry; Tacitus. 1 Gr., 1 Se., 5 Ju., 11 So., 1 Fr. Total 19.
- 3 hf. Asst. Professor E. K. RAND. — Latin Composition (second course). 5 Gr., 3 Ju., 9 So. Total 17.

For Undergraduates and Graduates: —

GREEK.

6. Professor WEIR SMYTH. — Greek Literature. Demosthenes; Aeschines; Aeschylus; Sophocles; Aristophanes. 2 Gr., 1 Se., 10 Ju., 4 So. Total 17.
- 7 hf. Professor J. H. WRIGHT. — Greek Prose Composition (third course). 4 Gr., 2 Se., 4 Ju. Total 10.
9. Professor ROPES. — Introduction to the Study of the New Testament. The Origin and History of the New Testament Writings; the Teaching of Jesus Christ and of the New Testament Authors. 1 Gr., 3 Se., 1 Ju., 10 Di. Total 15.
8. Professors GOODWIN and J. H. WRIGHT. — Plato; Aristotle. Survey of Greek Philosophy from Thales to Aristotle. 9 Gr., 2 Se. Total 11.
- 16 hf. Asst. Professor HARRIS. — Greek Literature. The Iliad of Homer, with studies of its influence to the time of the Renaissance. 4 Gr., 4 Se., 7 Ju., 1 So. Total 16.
12. Professor WEIR SMYTH. — History of Classical Greek Literature. 12 Gr., 1 Ju. Total 18.

LATIN.

6. Professor HOWARD. — Latin Literature. Suetonius; Pliny; Juvenal; Martial. 2 Gr., 12 Ju., 8 So. Total 17.
- 7 hf. Associate Professor C. P. PARKER. — Latin Composition (third course). 6 Gr., 2 Se., 5 Ju. Total 13.
8. Professor MINTON WARREN and Associate Professor C. P. PARKER. — Latin Literature. Cicero; Lucretius; Plautus. 8 Gr., 3 Se., 7 Ju. Total 18.

10. Professor MORGAN. — The Private Life of the Romans.

2 Gr., 26 Se., 44 Ju., 36 So., 1 Sp., 6 Sc. Total 115.

Primarily for Graduates:—

CLASSICAL PHILOLOGY.

†25¹/₂hf. Professor MORGAN. — History of Classical Studies and Introduction to Interpretation and Criticism. 11 Gr., 8 R. Total 14.

23¹/₂hf. Professor WEIR SMYTH. — Aeschylus (Agamemnon, Choephoroe, Eumenides). 8 Gr., 1 Se., 2 Ju. Total 11.

71¹/₂hf. Professor J. W. WHITE. — The Old Greek Comedy. Reading of the Fragments, with studies in Biography and Literary History. 2 Gr. Total 2.

78. Professor J. W. WHITE. — The Birds of Aristophanes. Critical and Literary Study of the Play. 3 Gr. Total 3.

†80¹/₂hf. Asst. Professor GULICK. — Herodotus. 5 Gr., 1 Se., 1 R. Total 7.

†27¹/₂hf. Professor GOODWIN. — The Politics of Aristotle. 2 Gr., 1 Se., 2 R. Total 5.

†60. Professor ROPES. — The Gospels of Matthew, Mark, and Luke. 1 Gr., 1 Ju., 2 Di., 1 R. Total 5.

†81¹/₂hf. Professor ROPES. — The Epistles of James, Peter, and Jude. 1 Di. Total 1.

45¹/₂hf. Professor MORGAN. — The early career of Cicero, from its outset to the end of the prosecution of Verres. 8 Gr., 1 Se., 1 Ju. Total 10.

46. Professor HOWARD. — The Second Punic War. Livy. 7 Gr. Total 7.

79¹/₂hf. Asst. Professor E. K. RAND. — The Works of Ovid, with studies of his Sources and of his Literary Influence from his own times to the Renaissance. 4 Gr., 1 Se., 2 Ju., 1 So. Total 8.

84¹/₂hf. Asst. Professor GULICK. — Greek Grammar (Sounds and Inflections). Study of Dialectic Inscriptions. 13 Gr. Total 13.

†62¹/₂hf. Professor WEIR SMYTH. — Greek Grammar (Syntax). 7 Gr., 1 R. Total 8.

†22¹/₂hf. Professor MINTON WARREN. — Latin Grammar (Sounds and Inflections). 12 Gr., 1 Se., 2 R. Total 15.

†63¹/₂hf. Professor MINTON WARREN. — Introduction to Latin Epigraphy. 10 Gr., 3 R. Total 13.

58¹/₂hf. Professor HOWARD. — Introduction to Latin Palaeography. 3 Gr. Total 3.

64. Dr. CHASE. — General Introduction to Classical Archaeology. 4 Gr., 1 Se., 1 Ju., 1 Sc. Total 7.

20. THE SEMINARY OF CLASSICAL PHILOLOGY.

Professors MINTON WARREN and MORGAN, Directors for 1905-06. — Training in philological criticism and research. Text-criticism and interpretation of Greek and Latin authors: for 1905-06, Antiphon and Terence.

7 Gr. Total 7.

Comparative Philology.

- 2a hf.** Professor GRANDGENT. — General Introduction to Linguistic Science. Phonetics. The Pronunciation of English, French, German, and Latin.
8 Gr., 1 Se., 2 So. Total 11.

English.**ENGLISH COMPOSITION.***Primarily for Undergraduates: —*

- A.** Professor BRIGGS, Asst. Professor HURLBUT, Drs. H. DE W. FULLER, GREENOUGH, LOW, STOLL, and WEBSTER, Messrs. BAKER, W. R. CASTLE, HERSEY, KENYON, MURRAY, NUTTER, POST, and STEARNS. — Rhetoric and English Composition.

1 Ju., 2 So., 334 Fr., 41 Sp., 119 Sc., 7 Bu. Total 504.

- BChf.** Mr. T. HALL. — English Composition. 1 So., 58 Sc. Total 59.

- 22.** Dr. MAYNADIER, and Mr. MURRAY and Dr. LAW. — English Composition.

2 Gr., 9 Se., 26 Ju., 34 So., 8 Fr., 6 Sp., 3 Sc. Total 88.

- 31^{1st} hf.** Asst. Professor GARDINER and Dr. WEBSTER. — English Composition.

1 Se., 6 Ju., 84 So., 66 Fr., 14 Sp., 3 Sc., 1 Bu. Total 175.

- 18.** Professor BAKER, and Messrs. WELLDON and CURTIS. — The Forms of Public Address. 1 Gr., 10 Se., 35 Ju., 23 So., 4 Sp., 1 Sc. Total 74.

- 30^{1st} hf.** Professor BAKER and Mr. CURTIS. — Debating.

4 Gr., 3 Se., 12 Ju., 2 So., 1 Sp. Total 22.

For Undergraduates and Graduates: —

- 12.** Mr. COPELAND. — English Composition.

6 Gr., 4 Se., 10 Ju., 6 So., 2 Sp. Total 28.

Primarily for Graduates: —

- 5.** Professor BRIGGS. — English Composition (advanced course).

11 Gr., 4 Se., 5 Ju., 3 So., 3 Sp., 1 Sc., 1 Di. Total 28.

- 47^{2d} hf.** Professor BAKER. — English Composition. The Technique of the Drama.

5 Gr., 3 Ju., 2 So. Total 10.

ENGLISH LITERATURE.*Primarily for Undergraduates: —*

- 28 hf.** Professors BRIGGS, WENDELL, KITTREDGE, and BAKER, and Mr. T. HALL. — English Literature. History and Development of English Literature in outline.

1 So., 95 Fr., 8 Sp. Total 104.

For Undergraduates and Graduates: —

- 3a^{1st} hf.** Dr. WEBSTER. — Anglo-Saxon. 21 Gr., 3 Se., 6 Ju., 1 So. Total 31.

- 1.** Asst. Professor SCHOFIELD and Dr. WEBSTER. — English Literature. Chaucer.

17 Gr., 3 Se., 4 Ju., 2 So. Total 26.

- 35.** Asst. Professor GARDINER. — English Literature. The English Bible.

3 Gr., 3 Se., 12 Ju., 11 So., 2 Sp. Total 31.

- 2.** Professor KITTREDGE. — English Literature. Shakspeare (six plays).

21 Gr., 11 Se., 23 Ju., 43 So., 1 Fr., 10 Sp., 3 Sc. Total 112.

- 11a ¹/_{hf}. Dr. H. DE W. FULLER.—English Literature. Bacon.
3 Gr., 4 Se., 6 Ju., 11 So., 1 Fr., 3 Sc., 1 Bu. Total 29.
- 11b ²/_{hf}. Asst. Professor F. N. ROBINSON.—English Literature. Milton.
11 Gr., 7 Se., 10 Ju., 24 So., 4 Fr., 4 Sp., 1 Sc. Total 61.
- 42a ¹/_{hf}. Asst. Professor SCHOFIELD.—The Literary History of England from the Norman Conquest to Chaucer.
9 Gr., 6 Se., 9 Ju., 13 So., 4 Fr., 5 Sp., 1 Sc. Total 47.
- 42b ²/_{hf}. Asst. Professor SCHOFIELD.—The Literary History of England from Chaucer to Elizabeth.
9 Gr., 12 Se., 27 Ju., 38 So., 10 Fr., 5 Sp., 1 Sc. Total 102.
- 32b ¹/_{hf}. Dr. H. DE W. FULLER.—English Literature. From the death of Spenser to the Closing of the Theatres (1599–1642).
5 Gr., 13 Se., 10 Ju., 21 So., 1 Sc. Total 50.
- 15 ²/_{hf}. Dr. GREENOUGH.—English Literature. From the Closing of the Theatres to the death of Dryden (1642–1700).
12 Gr., 15 Se., 25 Ju., 58 So., 12 Fr., 3 Sp., 4 Sc. Total 129.
- 8a ¹/_{hf}. Mr. COPELAND.—English Literature. From the publication of the Lyrical Ballads to the death of Scott (1798–1832).
5 Gr., 29 Se., 41 Ju., 60 So., 13 Fr., 8 Sp., 4 Sc. Total 160.
- 8b ²/_{hf}. Dr. MAYNADIER.—English Literature. From the death of Scott to the death of Tennyson (1832–1892).
7 Gr., 14 Se., 38 Ju., 45 So., 7 Fr., 7 Sp., 9 Sc. Total 127.
46. Professor WENDELL.—English Literature. The Literary Origins of English Literature. 8 Gr., 6 Se., 15 Ju., 15 So., 1 Fr., 3 Sp., 1 Sc. Total 49.
- 29 ¹/_{hf}. Dr. MAYNADIER.—English Literature. The Novel from Pamela to Daniel Deronda. 5 Gr., 2 Se., 3 Ju., 3 So. Total 13.
- 33 ¹/_{hf}. Professor WENDELL.—English Literature. The Literary History of America. 15 Gr., 36 Se., 42 Ju., 26 So., 4 Fr., 6 Sp., 2 Sc. Total 131.
- Primarily for Graduates:—*
- 16 ¹/_{hf}. Professor BRIGGS.—History and Principles of English Versification.
3 Gr., 1 So., 1 Fr., 1 Sp. Total 6.
- 3b ²/_{hf}. Professor KITTREDGE and Asst. Professor F. N. ROBINSON.—Anglo-Saxon. *Béowulf*. 17 Gr., 1 Se., 2 Ju. Total 20.
- 25 ¹/_{hf}. Asst. Professor F. N. ROBINSON.—Anglo-Saxon. *Cædmon*. *Cynewulf*. 5 Gr. Total 5.
- 27 ¹/_{hf}. Professor KITTREDGE.—The English and Scottish Popular Ballads.
7 Gr. Total 7.
- 44 ²/_{hf}. Professor KITTREDGE.—Chaucer. Study of special topics.
7 Gr. Total 7.
14. Professor BAKER.—English Literature. The Drama from the Miracle Plays to the Closing of the Theatres.
25 Gr., 1 Se., 5 Ju., 3 So., 1 Sp. Total 35.

COURSES OF SPECIAL STUDY.

20. The instructors in English held themselves ready to assist and advise competent Graduate Students who might propose plans of special study in the topics mentioned below. Such plans, however, must in each case have met the approval of the Department.

TOPICS.

- g. Professor BAKER. — The English Drama: its history, and its relation to Continental Drama. 1 Gr. Total 1.
 h. Professor WENDELL. — The Literary History of America. 2 Gr. Total 2.

Public Speaking.

Primarily for Undergraduates:—

1. Mr. DEMING. — Voice Cultivation.
 2 Gr., 3 Se., 5 Ju., 15 So., 20 Fr., 6 Sp., 3 Sc., 3 Bu. Total 57.
 2 hf. Messrs. WILLARD and HILLS. — Platform Speaking.
 3 Se., 25 Ju., 38 So., 7 Fr., 2 Sp., 1 Sc. Total 76.
 3 hf. Mr. HILLS. — Masterpieces of Public Discourse.
 2 Gr., 1 Se., 5 Ju., 19 So., 1 Fr. Total 28.
 4 hf. Mr. HILLS. — Dramatic Interpretation.
 1 Se., 1 Ju., 2 So., 2 Sp., 1 Law. Total 7.

Germanic Languages and Literatures.

GERMAN.

Primarily for Undergraduates:—

- A. Asst. Professor BIERWIRTH, Dr. STURTEVANT, and Messrs. GROSSMANN, WEBER, COLWELL, BRIGGS, and HERRICK. — Elementary Course.
 2 Gr., 6 Se., 4 Ju., 23 So., 183 Fr., 9 Sp., 12 Sc., 3 Bu., 1 Di. Total 243.
 D. Asst. Professor BIERWIRTH and Messrs. BRIGGS and LIEDER. — Elementary Course.
 1 Gr., 1 Fr., 48 Sc. Total 45.
 B. Mr. W. G. HOWARD. — Elementary Course (counting as two courses).
 4 So., 14 Fr., 4 Sp. Total 22.
 C. Dr. STURTEVANT and Mr. WEBER. — German Prose and Poetry.
 1 Ju., 5 So., 27 Fr., 8 Sp., 3 Sc. Total 44.
 1a. Messrs. MUENTER and WEBER. — German Prose and Poetry.
 1 Se., 7 Ju., 41 So., 8 Fr., 2 Sp., 1 Sc. Total 60.
 1b. Professor H. S. WHITE and Mr. LIEDER. — German Prose. Subjects in History and Biography.
 1 Gr., 4 Ju., 38 So., 13 Fr., 2 Sp., 8 Sc. Total 66.
 1c. Mr. COLWELL. — German Prose, narrative and descriptive.
 2 Gr., 5 So., 2 Fr., 22 Sc. Total 31.
 F hf. Mr. MUENTER. — Practice in speaking and writing German (first course).
 6 Ju., 3 So., 2 Fr., 1 Sc., 1 Bu. Total 13.

- 2a. Messrs. WEBER and MUENTER. — Introduction to German Literature of the Eighteenth and Nineteenth Centuries. Lessing, Goethe, and Schiller; German Ballads and Lyrics. 6 Ju., 21 So., 41 Fr., 1 Sp. Total 69.
- 2b. Professor H. S. WHITE, Dr. STURTEVANT, and Mr. GROSSMANN. — Introduction to German Literature of the Eighteenth and Nineteenth Centuries. Lessing, Goethe, and Schiller; German Ballads and Lyrics. 1 Gr., 3 Se., 26 Ju., 20 So., 22 Fr., 8 Sp., 5 Sc. Total 85.
3. Asst. Professor BIERWIRTH. — Schiller and his Time. Der Dreissigjährige Krieg; Wallenstein; Maria Stuart; Die Jungfrau von Orleans; Die Braut von Messina; Gedichte. 1 Se., 3 Ju., 8 So., 8 Fr., 2 Sp., 1 Sc. Total 23.
4. Asst. Professor WALZ. — Goethe and his Time. Götz von Berlichingen; Egmont; Iphigenie; Tasso; Dichtung und Wahrheit; Gedichte; Faust. 8 Se., 25 Ju., 33 So., 6 Fr., 1 Sc. Total 73.

For Undergraduates and Graduates: —

- G hf. Asst. Professor BIERWIRTH. — German Grammar and practice in writing German (advanced course). 2 Gr., 1 Ju., 1 So. Total 4.
5. Professor FRANCKE and Dr. WERNAER. — German Literature of the Classic Period of the Eighteenth Century. 2 Gr., 3 Se., 10 Ju., 4 So. Total 19.
- 26a ¹hf. Mr. W. G. HOWARD. — German Literature in the first half of the Nineteenth Century. Kleist; Uhland; Heine. 1 Gr., 2 Se., 2 Ju., 2 So. Total 7.
- 26b ¹hf. Mr. W. G. HOWARD. — German Literature in the second half of the Nineteenth Century. The Development of the Novel and the Drama. 1 Gr., 1 Se., 3 Ju., 7 So., 1 Fr. Total 13.
30. Professor H. S. WHITE. — Lessing's Life and Works. Selections from Lessing's dramatic and critical writings and from his correspondence, with some examination of his views on literary, artistic, and religious questions. 1 Gr., 1 Se., 3 Ju., 3 So., 1 Fr., 1 Sc. Total 10.
8. Asst. Professor WALZ. — German Literature in the Twelfth and Thirteenth Centuries. Nibelungenlied; Kudrun; Hartmann; Wolfram; Walther von der Vogelweide. Translation into modern German. 5 Gr., 4 Se., 3 Ju., 2 So., 2 Sp. Total 16.

Primarily for Graduates: —

- †9a hf. Professor FRANCKE. — German Religious Sculpture from the Eleventh to the End of the Thirteenth Century, and its relation to homiletic and legendary literature, with interpretations in the Germanic Museum. 4 Gr., 1 R. Total 5.
- †10 ¹hf. Mr. W. G. HOWARD. — German Literature in the Sixteenth Century. Humanism and Reformation. Hutten, Luther, Hans Sachs, Fischart. Popular Literature in prose and verse. The Drama. 2 Gr., 3 R. Total 5.
- †13 ¹hf. Mr. W. G. HOWARD. — The Dramatic Works of Friedrich Hebbel. 1 Gr., 1 Se. Total 2.
- †12a ¹hf. Dr. GOEBEL. — Gothic. Introduction to the study of Germanic Philology. General Introduction; Phonology. 11 Gr., 2 R. Total 13.

- ‡12b³/₄f. Dr. GOEBEL. — Introduction to the study of Germanic Philology (continued). Morphology; Etymology. 6 Gr., 1 R. Total 7.
- ‡14¹/₄f. Asst. Professor BIERWIRTH. — Old Saxon. Introduction to Germanic Metrics. 3 Gr. Total 3.
- ‡15³/₄f. Asst. Professor WALZ. — Old High German. 6 Gr., 1 R. Total 7.
- ‡21. Dr. GOEBEL. — History of the German Language, with special study of selected topics. 4 Gr. Total 4.
- 24³/₄f. Dr. GOEBEL. — Des Minnesangs Frühling. 7 Gr., 1 Ju. Total 8.

SEMINARY COURSES.

Primarily for Graduates :—

- ‡20a. Professor FRANCKE. — The Mediaeval German Religious Drama. 1 Gr., 1 R. Total 2.
- ‡20b¹/₄f. Asst. Professor WALZ. — Klopstock. 6 Gr. Total 6.

NETHERLANDISH.

For Undergraduates and Graduates :—

- 1a¹/₄f. Dr. H. DE W. FULLER. — Dutch grammar. 4 Gr., 2 Ju., 1 So. Total 7.
- 1b³/₄f. Dr. H. DE W. FULLER. — Netherlandish literature. 5 Gr., 1 Ju., 1 So. Total 7.

SCANDINAVIAN.

Primarily for Graduates :—

2. Asst. Professor SCHOFIELD. — Icelandic (Old Norse).— Selections from the Sagas and the Elder Edda. 12 Gr. Total 12.

Romance Languages and Literatures.

FRENCH.

Primarily for Undergraduates :—

- A. Mr. WHITTEM, assisted by Messrs. BAULIG, MICHELL, and DEY. — Elementary Course. 3 Gr., 6 Se., 11 So., 55 Fr., 15 Sp., 29 Sc. Total 119.
- 1c. Messrs. BUSH and GILL. — Reading, translation, grammar, and composition. 1 Se., 1 Ju., 10 So., 1 Fr., 1 Sp., 27 Sc. Total 41.
- 1b. Asst. Professor BABBITT, Dr. M. A. POTTER, and Messrs. HAWKINS and SPIERS. — French Prose, historical and general. Translation from French into English. 1 Gr., 7 Ju., 24 So., 44 Fr., 10 Sp., 10 Sc. Total 96.
- 1a. Associate Professor DE SUMICHRAST and Mr. BRUN. — Reading, translation, grammar, and composition. 2 Ju., 21 So., 18 Fr., 5 Sp. Total 46.
- 2c. Asst. Professor FORD, Dr. M. A. POTTER, Messrs. LINCOLN, HAWKINS, BAULIG, MICHELL, and WHITTEM. — French Prose and Poetry. Molière; Beaumarchais; Lamartine; Victor Hugo; Alfred de Musset; Balzac; Rostand. Composition. 4 Se., 16 Ju., 38 So., 98 Fr., 7 Sp., 2 Sc. Total 165.

- 2a. Asst. Professor C. H. C. WRIGHT, and Messrs. BRUN and SPIERS. — French Prose and Poetry. Corneille; Racine; Molière; Victor Hugo; George Sand; Alfred de Musset; Sainte-Beuve; Rostand. Composition.

2 Se., 11 Ju., 26 So., 59 Fr., 2 Sp., 4 Sc. Total 104.

- 4 ¹/₂f. Mr. BRUN. — French Composition (intermediate course).

4 Se., 7 Ju., 11 So., 7 Fr., 4 Sc. Total 33.

- 5 ²/₃f. Mr. BRUN. — French Composition (advanced course).

3 Se., 6 Ju., 5 So., 1 Fr. Total 15.

For Undergraduates and Graduates: —

- 6c. Professor GRANDGENT and Asst. Professor BABBITT. — General view of French Literature.

3 Gr., 1 Se., 8 Ju., 16 So. Total 28.

6. Associate Professor DE SUMICHRIST. — General view of French Literature.

3 Se., 16 Ju., 25 So., 4 Fr. Total 48.

13. Asst. Professor C. H. C. WRIGHT. — The Rise and Growth of Classicism in French Literature.

4 Gr., 1 Se., 1 Ju., 1 So. Total 7.

8. Associate Professor DE SUMICHRIST. — French Literature in the Eighteenth Century.

4 Gr., 5 Se., 11 Ju., 8 So. Total 28.

9. Asst. Professor C. H. C. WRIGHT. — French Literature in the Seventeenth Century.

1 Gr., 6 Se., 4 Ju., 3 So. Total 14.

ITALIAN.

Primarily for Undergraduates: —

1. Asst. Professor FORD, and Messrs. BUSH and MICHELL. — Elementary Course.

1 Se., 18 Ju., 15 So., 11 Fr., 1 Sp., 2 Sc. Total 48.

For Undergraduates and Graduates: —

5. Mr. MICHELL. — Modern Italian Literature. Prose and Poetry of the Eighteenth and Nineteenth Centuries.

3 Gr., 3 Se., 1 Ju., 1 So., 1 Fr., 1 Sp. Total 10.

2. Asst. Professor FORD. — Italian Literature of the Fifteenth and Sixteenth Centuries. Torquato Tasso, Ariosto, Machiavelli, Benvenuto Cellini.

4 Gr., 1 Se., 8 Ju., 1 So., 1 Sp. Total 15.

10. Professor GRANDGENT. — The Works of Dante, particularly the Vita Nuova and the Divine Comedy.

5 Gr., 5 Se., 3 Ju., 1 So. Total 14.

Primarily for Graduates: —

3. Professor GRANDGENT and Asst. Professor FORD. — Italian Literature of the Thirteenth and Fourteenth Centuries. Selections from Boccaccio, Petrarca, and Dante. Early Italian. Monaci's *Crestomazia italiana dei primi secoli*.

11 Gr., 1 Ju., 1 So. Total 13.

SPANISH.

Primarily for Undergraduates: —

1. Dr. M. A. POTTER, Messrs. LINCOLN, GILL, WHITTEM, and DEY. — Elementary Course.

1 Gr., 16 Ju., 30 So., 24 Fr., 1 Sp., 9 Sc. Total 81.

For Undergraduates and Graduates: —

- 4 ¹/₂f. Asst. Professor FORD. — A general view of Spanish Literature.

6 Gr., 5 Se., 5 Ju., 1 So. Total 17.

5. Asst. Professor FORD. — Spanish Prose and Poetry of the Eighteenth and Nineteenth Centuries.

5 Gr., 5 Se., 14 Jr., 7 So., 2 Fr., 1 Sp., 2 Sc. Total 36.

ROMANCE PHILOLOGY.

Primarily for Graduates : —

3. Professor SHELDON. — Old French. Phonology and inflections. The oldest texts. *La Chanson de Roland*; *Chrétien de Troyes*; *Aucassin et Nicolette*.
20 Gr., 1 Se. Total 21.

7. Professor SHELDON. — Anglo-French and the French Element in English.
2 Gr., 1 R. Total 3.

COURSE OF SPECIAL STUDY.

- ‡20. Professor SHELDON. — Opportunities were afforded to competent students for the investigation of special subjects in Romance Philology.

1 Gr., 1 R. Total 2.

Comparative Literature.

For Undergraduates and Graduates : —

2. Professor SHELDON. — Mediaeval Literature in the vulgar tongues, with especial reference to the influence of France and Provence.

4 Gr. Total 4.

3. Dr. M. A. POTTER. — Tendencies of European Literature in the Renaissance.
5 Gr., 1 Se. Total 6.

15. Asst. Professor BABBITT. — Rousseau and his Influence.
4 Gr., 1 Ju. Total 5.

COURSES OF SPECIAL STUDY.

Primarily for Graduates : —

20. Professor SHELDON. — Opportunities were afforded to competent Graduate Students, under the guidance of instructors, for original investigation in special topics.
1 Gr. Total 1.

- 20a. Asst. Professor FORD. — The Relations between Spanish Literature and the Literature of other European Countries. 1 Gr., 1 Se., 1 Ju. Total 3.

Celtic.

Primarily for Graduates : —

- 1¹/₂f. Asst. Professor F. N. ROBINSON. — Old Irish. General introduction to Celtic Philology.
1 Gr., 1 Law. Total 2.

- 3¹/₂f. Asst. Professor F. N. ROBINSON. — Old and Middle Welsh. The *Mabinogion* and other selections from the *Red Book of Hergest*.

2 Gr., 1 Ju., 1 Law. Total 4.

Slavic Languages.

For Undergraduates and Graduates : —

- 1a. Asst. Professor WIENER. — Russian. 2 So., 1 Law. Total 3.

- 1b. Asst. Professor WIENER. — Russian. Literature of the Nineteenth Century. Pushkin, Gogol, Turgenev, Tolstoy. Composition. 1 Se. Total 1.

- 2a. Asst. Professor WIENER. — Polish. 1 Se. Total 1.

- 4¹/₂f. Asst. Professor WIENER. — Introduction to the History of Russian Literature.
8 Se., 5 Ju., 47 So., 2 Fr., 1 Sp. Total 63.

History and Political Science.

HISTORY.

Primarily for Undergraduates:—

- 1a. Professor HASKINS, assisted by Messrs. GRAY, OGG, READ, and McKENDRICK. — Mediaeval History (introductory course).

4 Ju., 36 So., 246 Fr., 40 Sp., 5 Sc. Total 331.

27. Dr. MERRIMAN. — European History in the Sixteenth and Seventeenth Centuries: principally of France, Germany, and the Netherlands.

2 Se., 2 Ju., 38 So., 5 Fr., 4 Sp. Total 51.

For Undergraduates and Graduates:—

2. Professor J. H. WRIGHT. — History of Greece to the Roman Conquest.

4 Gr., 2 Se., 9 Ju., 12 So., 2 Sp. Total 29.

7. Professor EMERTON. — The Era of the Reformation in Europe from the rise of Italian Humanism to the close of the Council of Trent (1350-1563).

10 Gr., 1 Se., 3 Ju., 3 So., 3 Di. Total 20.

8. Professor GROSS. — History of France to the Reign of Francis I.

6 Gr., 1 Se., 5 Ju., 15 So., 1 Fr. Total 28.

9. Professor GROSS. — Constitutional History of England to the Sixteenth Century.

13 Gr., 3 Se., 6 Ju., 12 So., 1 Sp. Total 35.

11. Dr. MERRIMAN. — History of England during the Tudor and Stuart Periods.

9 Gr., 8 Se., 22 Ju., 18 So. Total 57.

- 12a ¹/_{hf}. Professor MACVANE, assisted by Mr. FRYER. — English History from the Revolution of 1688 to the Reform of Parliament.

13 Gr., 17 Se., 28 Ju., 41 So., 1 Fr., 2 Sp. Total 102.

- 12b ³/_{hf}. Professor MACVANE, assisted by Mr. FRYER. — English History since the Reform of Parliament.

9 Gr., 11 Se., 23 Ju., 45 So., 3 Sp., 1 Sc. Total 92.

- 16a ¹/_{hf}. Professor MACVANE, assisted by Mr. BLAIR. — History of Continental Europe from the Peace of Utrecht to the Fall of Napoleon I.

7 Gr., 28 Se., 31 Ju., 61 So., 9 Fr., 4 Sp., 1 Sc. Total 141.

- 16b ³/_{hf}. Professor MACVANE, assisted by Mr. BLAIR. — History of Continental Europe since the Fall of Napoleon I.

8 Gr., 20 Se., 25 Ju., 63 So., 6 Fr., 3 Sp. Total 125.

- 31 ¹/_{hf}. Professor DENNIS (University of Wisconsin). — European History in the Napoleonic Period.

1 Gr., 6 Se., 6 Ju., 7 So., 3 Sp. Total 23.

- 33 ¹/_{hf}. Professor DENNIS (University of Wisconsin). — History of British India.

2 Se., 2 Ju., 2 So., 1 Sp. Total 7.

10. Professor CHANNING, assisted by Dr. R. G. USHER. — American History to 1783.

4 Gr., 2 Se., 19 Ju., 36 So., 1 Fr., 4 Sp., 1 Sc. Total 67.

13. Professor A. B. HART, assisted by Messrs. BISHOP and LEOG. — Constitutional and Political History of the United States (1783-1865).

14 Gr., 8 Se., 53 Ju., 31 So., 1 Fr. Total 107.

Primarily for Graduates:—

- ‡21 ¹/₂f. Professor HASKINS.—Introduction to the Sources of Mediaeval History.
6 Gr., 1 Se., 2 R. Total 9.
- 22 ¹/₂f. Professor HASKINS.—The Elements of Latin Palaeography, with reference
to the use of historical sources. 7 Gr., 1 Se. Total 8.
26. Professor EMERTON.—History of Christian Thought, considered in its relation
to the prevailing philosophy of each period, from the earliest time to the
Eighteenth Century. 1 Gr., 1 Se., 5 Di. Total 7.
- ‡24. Professor E. C. MOORE.—The Church since the Reformation.
2 Gr., 1 Se., 13 Ju., 18 So., 2 Sp., 1 Sc., 5 Di. Total 42.
- 23a ¹/₂f. Professor CHANNING.—Selected Topics in the historical development
of American Institutions. Colonial History, 1660–1689. 6 Gr. Total 6.
- 23b ¹/₂f. Professor CHANNING.—Selected Topics in the historical development
of American Institutions. Colonial History, 1689–1760.
7 Gr., 1 Ju. Total 8.

COURSES OF RESEARCH.

- 20a. Professor EMERTON.—Church and State. 1 Gr. Total 1.
- 20b. Professor GROSS.—English Institutions in the Middle Ages.
3 Gr. Total 3.
- 20c. Professor HASKINS.—Institutions of Continental Europe in the Middle
Ages. 2 Gr. Total 2.
- 20e. Professors CHANNING and HART.—American History and Institutions.
7 Gr., 1 Sp. Total 8.
- 20f. Dr. MERRIMAN.—English Institutions in the Tudor and Stuart Periods.
1 Gr. Total 1.
- 20h. Mr. JOHNSTON.—History of France and Italy during the period of Napoleon
and the Risorgimento. 1 Se. Total 1.

GOVERNMENT.

Primarily for Undergraduates:—

1. Professor LOWELL, assisted by Messrs. RICE, CATLETT, LUNT, and USHER.—
Constitutional Government (elementary course).
1 Gr., 3 Ju., 111 So., 235 Fr., 29 Sp., 5 Sc. Total 384.

For Undergraduates and Graduates:—

4. Professor MACVANE, assisted by Mr. H. C. JONES.—Elements of Interna-
tional Law. 4 Gr., 14 Se., 16 Ju., 6 So., 2 Sp. Total 42.
5. Professor HASKINS.—The Roman Law: its History, Principles, and Influ-
ence on European Institutions. 5 Gr., 1 Se., 9 Ju., 8 So., 1 Sp. Total 24.
- 9 ¹/₂f. Professor GROSS.—Origin and Development of Municipal Government in
the Middle Ages. 2 Se., 4 Ju., 4 So., 1 Sp. Total 11.
11. Dr. MUNRO.—Colonial Governments.
5 Gr., 7 Se., 30 Ju., 31 So., 2 Sp. Total 75.
- 13 ¹/₂f. Mr. JOHNSTON.—European Diplomacy since 1814.
5 Gr., 1 Se., 10 Ju., 3 So. Total 19.

14. Professor A. B. HART. — American Diplomacy. Treaties; application of International Law; Foreign Policy. 9 Gr., 3 Se., 3 Ju., 1 So. Total 16.
16. Professor STIMSON, assisted by Dr. FITE. — Tendencies of American Legislation, with an historical view of prototypes in English legislation.
6 Gr., 5 Se., 50 Ju., 48 So., 2 Fr., 5 Sp. Total 116.
17. Dr. MUNRO, assisted by Mr. NEAGLE. — Modern Municipal Government.
7 Gr., 10 Se., 36 Ju., 20 So., 3 Sp. Total 76.

Primarily for Graduates: —

19. Professor STIMSON. — American Constitutional Law: A study of constitutional principles and limitations throughout the United States.
5 Gr., 7 Se., 4 Ju., 1 So. Total 17.
- 21 ¹/₂hf. Mr. E. M. PARKER. — Comparative Administration. European and American Systems.
1 Gr., 1 Se. Total 2.

Economics.

Primarily for Undergraduates: —

1. Professor TAUSSIG and Asst. Professor ANDREW, assisted by Messrs. HOWLAND, C. W. WRIGHT, MARTIN, PRICE, MASON, and DAGGETT. — Principles of Economics.
1 Gr., 9 Se., 87 Ju., 266 So., 63 Fr., 22 Sp., 22 Sc. Total 470.
- 7 ¹/₂hf. Asst. Professor BULLOCK. — Public Finance considered with special reference to the Theory and Methods of Taxation.
13 Se., 54 Ju., 55 So., 4 Fr., 8 Sp., 2 Sc., 1 Bu. Total 187.

For Undergraduates and Graduates: —

2. Professor TAUSSIG. — Principles of Economics (second course).
13 Gr., 7 Se., 5 Ju., 8 So., 1 Sp. Total 34.
3. Professor CARVER. — Principles of Sociology. Theories of Social Progress.
9 Gr., 11 Se., 23 Ju., 13 So., 2 Sp., 2 Di. Total 60.
- 5 ¹/₂hf. Professor RIPLEY, assisted by Mr. DAGGETT. — Economics of Transportation.
10 Gr., 32 Se., 59 Ju., 28 So., 5 Sp., 4 Sc. Total 138.
- 6 ¹/₂hf. Professor TAUSSIG and Asst. Professor GAY. — Economic and Financial History of the United States.
14 Gr., 15 Se., 37 Ju., 10 So., 1 Sp., 2 Sc. Total 79.
- 8a ¹/₂hf. Asst. Professor ANDREW. — Money. A general survey of currency legislation, experience, and theory in recent times.
5 Gr., 7 Se., 22 Ju., 10 So., 1 Fr., 2 Sp., 3 Sc. Total 50.
- 8b ¹/₂hf. Asst. Professor ANDREW. — Banking and the History of the leading Banking Systems.
7 Gr., 12 Se., 56 Ju., 22 So., 1 Fr., 4 Sp., 3 Sc. Total 105.
- 9a ¹/₂hf. Professor RIPLEY, assisted by Messrs. CUSTIS and HOUGHTON. — Problems of Labor.
7 Gr., 23 Se., 42 Ju., 17 So., 2 Sp., 5 Sc. Total 96.
- 10 ¹/₂hf. Asst. Professor GAY. — Mediaeval Economic History of Europe.
6 Gr., 1 Se., 1 Ju. Total 8.
11. Asst. Professor GAY. — Modern Economic History of Europe.
8 Gr., 2 Se. Total 10.
- 12b ¹/₂hf. Asst. Professor ANDREW. — Commercial Crises and Cycles of Trade.
9 Gr., 20 Se., 20 Ju., 5 So., 1 Sc. Total 55.

- 14a ¹/_{hf}. Professor CARVER. — The Distribution of Wealth.
7 Gr., 25 Se., 9 Ju., 2 So., 2 Sp., 1 Sc. Total 46.
- 14b ³/_{hf}. Professor CARVER. — Methods of Social Reform. Socialism, Communism, the Single Tax, etc.
10 Gr., 6 Se., 8 Ju., 1 So., 1 Sp., 1 Sc., 2 Di. Total 29.
16. Asst. Professor BULLOCK. — Public Finance (advanced course).
5 Gr., 2 Se. Total 7.
18. Mr. W. M. COLE. — Principles of Accounting.
6 Gr., 23 Se., 7 Ju., 3 So., 1 Sc., 4 Law. Total 44.
21. Asst. Professor WYMAN. — Principles of Law governing Industrial Relations and Commercial Law.
6 Gr., 68 Se., 46 Ju., 19 So., 6 Sp., 5 Sc. Total 150.
- 23 ³/_{hf}. Professor CARVER. — Economics of Agriculture, with special reference to American conditions.
4 Gr., 10 Se., 11 Ju., 14 So., 1 Fr., 1 Sp., 1 Bu. Total 42.

Primarily for Graduates : —

15. Asst. Professor BULLOCK. — History and Literature of Economics to the year 1848.
7 Gr. Total 7.
- 25 ³/_{hf}. Professor TAUSSIG. — Adam Smith and Ricardo. 3 Gr., 2 Se. Total 5.

COURSE OF RESEARCH.

- 20a. Asst. Professor GAY. — Selected Topics in English Economic History.
4 Gr. Total 4.

THE SEMINARY IN ECONOMICS.

20. Competent students were guided in investigation, undertaken independently or in connection with courses primarily for graduates; and the results were presented for discussion.
8 Gr., 1 Se. Total 4.

History of Religions.

For Undergraduates and Graduates : —

2. Professor G. F. MOORE. — History of Religions in Outline. The Religions of China and Japan, Egypt, Babylonia and Assyria, and the Western Semites (including Judaism and Mohammedanism). The Religions of India, Persia, the Greeks, Romans, Germans, and Celts; Christianity.
2 Gr., 19 Se., 16 Ju., 20 So., 1 Fr., 1 Sp., 12 Di. Total 71.

Primarily for Graduates : —

- 4 ¹/_{hf}. Professor G. F. MOORE. — Judaism, from 198 B.C. to modern times.
1 Gr., 1 Sp. Total 2.

Philosophy.

Primarily for Undergraduates : —

- 1a. Professors JAMES, ROYCE, and MÜNSTERBERG. — General Introduction to Philosophy. Logic. Psychology.
3 Gr., 2 Se., 62 Ju., 100 So., 30 Fr., 13 Sp., 16 Sc. Total 226.
- 1b. Professor PALMER and Asst. Professor PERRY. — Outlines of the History of Philosophy, Ancient and Modern.
2 Gr., 1 Se., 42 Ju., 33 So., 6 Fr., 10 Sp. Total 94.

For Undergraduates and Graduates:—

- 2 ¹/_{hf}. Asst. Professor HOLT. — Advanced Psychology.
1 Gr., 8 Se., 1 Ju., 1 So. Total 11.
13. Dr. YERKES. — Comparative Psychology.
4 Gr., 3 Se., 5 Ju., 1 So. Total 13.
- 14 ²/_{hf}. Asst. Professor HOLT. — Experimental Psychology (elementary laboratory course).
1 Gr., 2 Se., 5 Ju., 1 So., 1 Fr., 1 Sp. Total 11.
- 3a ¹/_{hf}. Professor OSTWALD (University of Leipzig). — Philosophy of Natural Science.
7 Gr., 12 Se., 13 Ju., 7 So., 1 Fr., 3 Sp., 3 Di. Total 46.
4. Professor PALMER. — Ethics. The Theory of Morals, considered constructively.
3 Gr., 7 Se., 7 Ju., 8 So., 1 Sp., 1 Sc., 4 Di. Total 31.
9. Professors JAMES and ROYCE. — Metaphysics. The Fundamental Problems of Theoretical Philosophy. The Nature of Reality; Monism and Pluralism; Freedom, Teleology, and Theism.
11 Gr., 7 Se., 4 Ju., 1 So., 1 Sp., 10 Di. Total 34.
15. Professor ROYCE. — Theory of Knowledge. The Processes of Conception, Judgment, and Reasoning. The Relations of Thought and Reality. The Elements of Symbolic Logic.
4 Gr., 2 Se., 1 Ju., 1 R. Total 8.
18. Dr. J. H. WOODS. — Philosophical Systems of India, with special reference to Vedanta, Sankhya, and Yoga.
1 Gr., 1 Ju., 3 Di. Total 5.
12. Asst. Professor PERRY. — Greek Philosophy, with especial reference to Plato.
2 Gr., 2 Se., 2 Ju., 1 Fr., 2 Di. Total 9.
- 11a ¹/_{hf}. Dr. J. H. WOODS. — Descartes, Spinoza, and Leibnitz.
3 Gr., 2 Se., 2 So. Total 7.
- 11b ²/_{hf}. Dr. HOCKING. — History of English Philosophy from Locke to Hume.
2 Gr., 4 Se., 1 Sp. Total 7.
8. Professor ROYCE. — The Kantian Philosophy.
2 Gr., 1 Se., 1 Ju., 1 Sp., 2 Di. Total 7.
10. Asst. Professor PERRY. — Philosophy of History.
1 Gr., 2 Se., 3 Ju., 1 So., 1 Di. Total 8.
- 16 ¹/_{hf}. Professor FENN. — Theism.
2 Gr., 3 Se., 1 So., 6 Di. Total 12.
17. Professor E. C. MOORE. — History of Christian Thought since Kant.
2 Gr., 2 Se., 1 Sp., 7 Di. Total 12.
- 7 ^h/_f. Dr. J. H. WOODS. — Science of Religion.
2 Se., 1 So., 1 Di. Total 4.

COURSES OF SPECIAL STUDY.

Primarily for Graduates:—

- †20a. Professor MÜNSTERBERG, Asst. Professor HOLT, and Dr. YERKES. — Psychological Laboratory. Experimental investigations.
6 Gr., 1 Se., 1 R. Total 8.
- 20b. Professor MÜNSTERBERG. — Psychological Seminary. The Psychology of Truth, Beauty, and Morality.
11 Gr., 1 Ju., 1 Sp., 4 Di. Total 17.

‡20c. Professor ROYCE.—Logical Seminary. The Logical Analysis of Fundamental Concepts and their General Relations to Philosophical Problems.

4 Gr., 2 R. Total 6.

‡20d. Professor PALMER.—Ethical Seminary. The Ethics of German Idealism.

4 Gr., 9 Di., 1 R. Total 14.

Social Ethics.

For Undergraduates and Graduates:—

1¹hf. Professor PEABODY and Dr. ROGERS.—Ethics of the Social Questions. The problems of Poor-Relief, the Family, Temperance, and various phases of the Labor Question, in the light of ethical theory.

5 Gr., 24 Se., 59 Ju., 50 So., 2 Fr., 9 Sp., 5 Sc., 11 Di. Total 165.

2¹hf. Dr. BRACKETT.—Social Ethics. Practical Problems of Charity, Public Aid and Correction. 2 Gr., 3 Se., 2 Ju., 2 So., 1 Sc., 2 Di. Total 12.

3¹hf. Dr. ROGERS.—Criminology and Penology.

2 Gr., 20 Se., 17 Ju., 8 So., 1 Sp., 3 Sc., 2 Di. Total 53.

Primarily for Graduates:—

COURSES OF RESEARCH.

20a¹hf. Professor PEABODY.—Seminary of Social Ethics. Religion and the Social Question. 1 Gr., 3 Sp., 13 Di. Total 17.

20b¹hf. Professor PEABODY directed special research in the Ethics of the Social Questions. 1 Di. Total 1.

20c. Dr. BRACKETT.—School for Social Workers. The study of problems of charity, public aid, corrections, etc., including practical work under direction. 1 Se., 2 Sp. Total 3.

Education.

For Undergraduates and Graduates:—

1. Asst. Professor A. O. NORTON.—History of Educational Practices and Theories. 1 Gr., 3 Se., 4 Ju., 6 So., 1 Sp., 9 Sc. Total 24.

2a¹hf. Professor HANUS.—Introduction to the Study of Education. Discussion of Educational Principles.

5 Gr., 16 Se., 12 Ju., 6 So., 2 Sp., 5 Sc. Total 46.

2b¹hf. Professor HANUS.—Development of Schools and School Systems in the United States, more particularly in Massachusetts. Contemporary Tendencies and Problems. 3 Gr., 5 Se., 3 Ju., 1 So., 3 Sc. Total 15.

5¹hf. Asst. Professor A. O. NORTON.—Education of the Individual. Critical and historical study of modern views. 2 Gr., 2 Se., 5 Sc. Total 9.

Primarily for Graduates:—

‡3. Professor HANUS and Asst. Professor A. O. NORTON.—Organization and Management of Public Schools and Academies. Supervision, Courses of Study, and Teaching. 6 Gr., 3 Se., 3 Ju., 3 Sc., 10 R. Total 25.

4¹hf. Professor HANUS.—School Systems of England, France, and Germany. 4 Gr., 1 Ju., 1 Sc. Total 6.

SEMINARY COURSE.

‡20a. Professor HANUS.—Seminary. Contemporary Problems in Education.

5 Gr. Total 5.

The Fine Arts.

Primarily for Undergraduates:—

1. Professor CHARLES H. MOORE, assisted by Messrs. MOWER and POPE.—Principles of Delineation, Color, and Chiaroscuro, with some consideration of historic forms of Art, and the conditions which have influenced them.
2 Gr., 2 Se., 3 Ju., 15 So., 14 Fr., 5 Sp., 21 Sc. Total 63.

For Undergraduates and Graduates:—

2. Professor CHARLES H. MOORE.—Principles of Design in Architecture, Sculpture, and Painting, as exemplified in the Arts of past ages.
1 Gr., 1 Se., 2 Ju., 4 So., 6 Sc. Total 14.
3. Dr. CHASE, assisted by Mr. THOMAS.—History of Ancient Art. Architecture, Sculpture, and Painting in Egypt, Assyria, and Greece, with some account of the lesser arts.
1 Gr., 6 Se., 29 Ju., 48 So., 4 Fr., 3 Sp., 5 Sc. Total 96.
4. Professor CHARLES H. MOORE, assisted by Messrs. POPE and THOMAS.—The Fine Arts of the Middle Ages and the Renaissance.
1 Gr., 16 Se., 28 Ju., 16 So., 1 Fr., 2 Sc. Total 64.
5. Mr. POPE.—Landscape Painting: its history and principles, with special reference to the works of Turner. 1 Gr., 2 Se., 1 Ju., 3 So. Total 7.

COURSES OF SPECIAL STUDY.

Primarily for Graduates:—

- ‡20b. Professor CHARLES H. MOORE.—History and Principles of Engraving.
2 Gr., 1 Ju. Total 3.
- ‡20d. Dr. CHASE.—Classical Archaeology (advanced course). The history of Greek vase painting.
2 Gr., 1 Se., 1 Ju., 1 R. Total 5.

Architecture.

The courses in Architecture are intended primarily for students in the Lawrence Scientific School, and only Courses 1a, 1b, 1c, 7a, 20b (and 2a when it is taken in connection with 1a) may be counted towards the degree of A.B.

For Undergraduates and Graduates:—

- 1a. Professor H. L. WARREN, assisted by Messrs. SWAN and HOYLE.—Technical and Historical Development of the Ancient Styles, with especial reference to Classic Architecture.
1 Gr., 3 Se., 4 Ju., 10 So., 3 Fr., 22 Sc. Total 43.
- 1c. Professor H. L. WARREN, assisted by Mr. HOYLE.—Technical and Historical Development of Renaissance and Modern Architecture.
6 Gr., 8 Se., 8 Ju., 3 So., 1 Fr., 23 Sc. Total 49.
- 2a. Mr. SWAN, assisted by Mr. HOYLE.—Elementary Architectural Drawing. Elements of Architectural Form. The Orders.
1 Gr., 2 Se., 2 Ju., 3 So., 1 Fr., 21 Sc. Total 30.

- 2b. Asst. Professor MOWLL. — Descriptive Geometry. Shades, Shadows, Perspective, and Stereotomy. 7 Sc. Total 7.
- 3a. Asst. Professor MOWLL and Mr. SWAN. — Freehand Drawing. 2 Gr., 1 So., 9 Sc. Total 12.
- 3b. Mr. H. B. WARREN and Mr. J. LINDON SMITH, assisted by Mr. SWAN. — Freehand Drawing (second course). Mr. MURPHY. — Drawing from the Life. 3 Gr., 3 Se., 1 Ju., 8 Sc. Total 15.
- 3c. Mr. H. B. WARREN and Mr. J. LINDON SMITH, assisted by Mr. SWAN. — Freehand Drawing (third course). Mr. MURPHY. — Drawing from the Life. 13 Sc. Total 18.
- 4a. Asst. Professor MOWLL and Mr. SWAN; with lectures on the Principles of Design in Architecture, and occasional criticism, by Professor H. L. WARREN. — Elementary Architectural Design, 2 Gr., 2 Se., 2 Ju., 15 Sc. Total 21.
- 4b. Professor H. L. WARREN and Asst. Professor MOWLL. — Architectural Design (second course). 2 Gr., 1 Se., 1 Ju., 7 Sc. Total 11.
- 4c. Professor H. L. WARREN and Asst. Professor MOWLL, with the coöperation, successively, of Messrs. R. S. PEABODY, WHEELWRIGHT, STURGIS, and DAY. — Architectural Design (third course). 9 Sc. Total 9.
- 5¹/₂f. Mr. SWAN. — Building Construction: Carpentry. 1 Gr., 1 Se., 12 Sc. Total 14.
- 6¹/₂f. Mr. GARBUTT. — Modelling. 11 Sc. Total 11.
- 7a³/₄f. Dr. ROSS. — Theory of Pure Design, Balance, Rhythm, and Harmony. 1 Gr., 6 Se., 3 Ju., 4 So., 1 Fr., 1 Sp., 6 Sc. Total 22.
- 4d. Professor H. L. WARREN and, successively, Messrs. R. S. PEABODY, WHEELWRIGHT, STURGIS, and DAY. — Architectural Design (advanced course). 1 Gr. Total 1.

COURSES OF SPECIAL STUDY.

- 20a. Professor H. L. WARREN. — Competent students who satisfied the instructor of their fitness to pursue advanced work were directed in the study of special periods in the history of architecture. 1 Gr., 1 Sc. Total 2.
- 20b³/₄f. Dr. ROSS. — Advanced Practice in Pure Design or in Representation. 4 Se., 2 Ju., 2 Sp. Total 8.

Landscape Architecture.

For Undergraduates and Graduates:—

1. Professor OLNSTED and Asst. Professor PRAY, with five lectures by Professors GOODALE and SHALER. — Principles of Landscape Architecture. 6 Se., 17 Ju., 19 So., 3 Fr., 15 Sc., 2 Bu. Total 62.
2. Professor OLNSTED and Mr. SHURTLEFF. — Practice in Design (first course). 2 Gr., 1 Sc. Total 3.
3. Professor OLNSTED and Asst. Professor PRAY. — Practice in Design (second course). 2 Sc. Total 2.
4. Mr. SHURTLEFF. — Details of Construction. 2 Gr., 4 Sc. Total 6.

Music.*For Undergraduates and Graduates :—*

1. Asst. Professor SPALDING and Mr. HEILMAN. — Harmony.
2 Se., 10 Ju., 9 So., 17 Fr., 4 Sp. Total 42.
- 1a. Mr. HEILMAN. — Harmony (advanced course). 2 Gr., 1 Ju., 1 Fr. Total 4.
2. Asst. Professor CONVERSE. — Counterpoint.
1 Gr., 1 Se., 1 Ju., 7 So., 1 Sp., 3 Fr. Total 14.
- 2a hf. Asst. Professor SPALDING. — Vocal Counterpoint, with analysis of choral works of the great composers. 2 Gr., 4 Ju., 2 Fr., 1 Sp. Total 9.
- 2b hf. Asst. Professor CONVERSE. — Mediaeval or Modal Harmony and its application. 4 Gr., 2 Se., 2 Ju. Total 8.
3. Asst. Professor SPALDING. — History of Music from the time of Palestrina to the present day. 4 Se., 15 Ju., 18 So., 5 Fr., 2 Sp. Total 44.
4. Asst. Professor SPALDING and Mr. HEILMAN. — Musical Form, with analysis of the works of the great composers.
1 Gr., 2 Se., 7 Ju., 8 So., 4 Fr., 1 Sp. Total 23.

Primarily for Graduates :—

- †5. Asst. Professor CONVERSE. — Canon and Fugue.
1 Se., 6 Ju., 3 Sp., 1 R. Total 11.
- †6. Asst. Professor CONVERSE. — Free Composition.
3 Gr., 2 Se., 1 Ju. Total 6.
- †7. Asst. Professor SPALDING. — Instrumentation.
3 Gr., 3 Se., 3 Ju., 1 Sp., 1 R. Total 11.

Mathematics.*Primarily for Undergraduates :—*

- F. Professor BÔCHER, Asst. Professor BOUTON, Dr. COOLIDGE, and Mr. WHITTEMORE. — Trigonometry and Plane Analytic Geometry.
1 Gr., 3 Ju., 14 So., 63 Fr., 12 Sp. Total 93.
- G. Dr. COOLIDGE. — Plane and Solid Analytic Geometry (extended course).
1 Gr., 2 Ju., 3 So., 15 Fr., 2 Sp., 1 Sc. Total 24.
- D²hf. Mr. WHITTEMORE. — Algebra.
1 Gr., 1 Se., 6 Ju., 13 So., 28 Fr., 3 Sp., 7 Sc. Total 59.
- E¹hf. Professor BYERLY, Asst. Professor BOUTON, Dr. COOLIDGE, and Mr. WHITTEMORE. — Solid Geometry.
6 Se., 8 Ju., 22 So., 24 Fr., 11 Sp., 24 Sc. Total 95.
- 1²hf. Asst. Professor BOUTON. — Solid Analytic Geometry.
1 Gr., 3 So., 1 Fr., 1 Sc. Total 6.
2. Professor OSGOOD. — Differential and Integral Calculus (first course).
2 Gr., 1 Se., 9 Ju., 28 So., 4 Sc. Total 44.
4. Professor OSGOOD. — The Elements of Mechanics.
4 Gr., 2 Se., 8 Ju., 3 So., 5 Sc. Total 22.

For Undergraduates and Graduates:—

3. Professor BYERLY. — Introduction to Modern Geometry and Modern Algebra.
3 Gr., 1 Se., 2 Ju., 5 So. Total 11.
- 3b ¹/_{hf}. Professor J. M. PEIRCE. — Introduction to Higher Plane Curves.
1 Gr., 1 Se., 5 Ju. Total 7.
5. Professor BYERLY. — Differential and Integral Calculus (second course).
6 Gr., 2 Se., 6 Ju., 2 So., 1 Sc. Total 17.
- 12 ¹/_{hf}. Professor OSGOOD. — Infinite Series and Products.
3 Gr., 1 Se., 1 Ju. Total 5.
- 14a ³/_{hf}. Professor BÔCHER. — Algebra. The Properties of Polynomials; Invariants.
6 Gr., 1 Ju., 1 Sc. Total 8.
- 18 ³/_{hf}. Asst. Professor BOUTON. — The Elementary Theory of Differential Equations.
2 Gr., 1 Se. Total 3.
6. Professor J. M. PEIRCE and Professor E. B. WILSON (Yale University). — The Calculus of Quaternions (first course). Elementary principles and applications.
8 Gr., 2 Se., 3 Ju. Total 13.
- †7a ³/_{hf}. Professor J. M. PEIRCE and Dr. COOLIDGE. — Triangular Coördinates of Points and Lines in a Plane. The General Theory of Algebraic Plane Curves. Plane Curves of the Third Degree in Point and Line Coördinates.
1 Se., 2 Ju. Total 3.
- 32a ¹/_{hf}. Mr. WHITEMORE. — Celestial Mechanics. 2 Gr. Total 2.

Primarily for Graduates:—

- †13. Professor BÔCHER. — The Theory of Functions (introductory course).
6 Gr., 1 Se., 1 Ju., 2 R., 1 Sp., 1 Di. Total 12.
- †29. Dr. COOLIDGE. — Non-Euclidean Geometry. 1 Gr., 1 Se. Total 2.
- †27 ³/_{hf}. Asst. Professor HUNTINGTON. — The Fundamental Concepts of Mathematics.
1 Gr., 1 Ju., 1 So., 1 R. Total 4.
- †10. Professors BYERLY and B. O. PEIRCE. — Trigonometric Series. Introduction to Spherical Harmonics. The Potential Function.
5 Gr., 2 Ju. Total 7.
- †33. Professor B. O. PEIRCE. — Methods in Mathematical Physics. Elasticity; Capillarity; the Theory of the Tides; the application of the Lagrangian Equations to problems in Electromagnetism. 3 Gr., 1 Se., 1 R. Total 5.
- †17 ³/_{hf}. Professor OSGOOD. — The Theory of Functions (advanced course): Riemann's Theory of Functions. 3 Gr., 1 R. Total 4.
- †31 ¹/_{hf}. Professor BÔCHER. — Definite Integrals and Integral Equations.
4 Gr., 2 R. Total 6.
- †25. Asst. Professor BOUTON. — Geometrical Transformations, with special reference to the work of Sophus Lie. 1 Gr., 1 R. Total 2.

COURSES OF READING AND RESEARCH.

- 20e. Professor W. F. OSGOOD. — Special Topics in the Theory of Logarithmic Potential. 1 Gr. Total 1.
- †20f. Professor BÔCHER. — Fluctuating Functions. 2 Gr. Total 2.
- †20g. Asst. Professor BOUTON. — Topics in the Theory of Continuous Groups. 1 R. Total 1.

Astronomy.*Primarily for Undergraduates:—*

- 1 ¹/₂f. Professor WILLSON and Mr. BRENKE. — Descriptive Astronomy.
28 Se., 30 Ju., 11 Fr., 3 Sp., 34 Sc. Total 166.
- 2 ³/₄f. Professor WILLSON and Mr. BRENKE. — Practical Astronomy. Application of Astronomy to Navigation and Exploration.
1 Se., 8 Ju., 10 So., 9 Sc. Total 28.

For Undergraduates and Graduates:—

3. Professor WILLSON. — Practical Astronomy. Portable and fixed instruments.
1 Se., 1 Ju. Total 2.

Physics.*Primarily for Undergraduates:—*

- B. Professor HALL, Dr. G. W. PIERCE, and Mr. J. M. ADAMS. — Experimental Physics (elementary course).
1 Gr., 3 Ju., 21 So., 18 Fr., 9 Sp., 27 Sc. Total 79.
- C. Professor SABINE and Dr. H. W. MORSE. — Experimental Physics. Mechanics, Sound, Light, Magnetism, and Electricity.
2 Gr., 3 Se., 12 Ju., 33 So., 37 Fr., 9 Sp., 33 Sc., 1 Bu. Total 180.
1. Professor HALL and Mr. SERVIS. — General Descriptive Physics.
2 Se., 3 Ju., 8 So., 7 Fr., 1 Sp., 10 Sc. Total 31.
- 2 ¹/₂f. Professor SABINE. — The Theory of Light in its application to familiar optical phenomena and to optical instruments. 2 So., 1 Sc. Total 3.
- 11 ¹/₂f. Dr. H. W. MORSE. — The Theory of Primary and Secondary Batteries.
1 Se., 4 Ju., 3 So., 5 Sc. Total 13.

For Undergraduates and Graduates:—

3. Professor B. O. PEIRCE and Mr. H. N. DAVIS. — Electrostatics, Electromagnetism, and parts of Electromagnetism.
2 Gr., 1 Se., 6 Ju., 1 So., 16 Sc. Total 26.
- 12 ¹/₂f. Dr. LYMAN. — Radioactivity and Electric Conduction in Gases with special reference to the Theory of Ions.
3 Gr., 1 Se., 4 Ju., 3 So., 1 Sp., 1 Sc. Total 13.
- 17 ²/₄f. Dr. G. W. PIERCE. — Electric Waves and their Application to Wireless Telegraphy.
5 Se., 5 Ju., 1 So., 1 Sp., 9 Sc. Total 21.
4. Professor TROWBRIDGE, Dr. G. W. PIERCE, and Dr. LYMAN. — Magnetism, Electromagnetism, and Electrodynamics.
1 Gr., 3 Se., 1 Ju., 14 Sc. Total 19.
5. Professor SABINE. — Light. 2 Gr., 1 Se., 2 Ju. Total 5.
- 6a ¹/₂f. Professor HALL. — Elements of Thermodynamics.
4 Gr., 2 Se., 1 Ju., 1 Sc. Total 8.
- 6b ³/₄f. Professor HALL. — Modern Developments and Applications of Thermodynamics. 3 Gr., 1 Se., 1 Ju. Total 5.
- 14 ³/₄f. Dr. H. W. MORSE. — The Theory of Photography.
1 Gr., 2 Se., 2 Ju., 2 So., 1 Fr., 3 Sc. Total 11.

Primarily for Graduates :—

- ‡10. Professor B. O. PEIRCE. — The Mathematical Theory of Electricity and Magnetism (second course). 4 Gr., 1 Se. Total 5.

COURSES OF RESEARCH.

- 20a. Professor TROWBRIDGE. — Light and Electricity. 2 Instr. Total 2.
 20b. Professor B. O. PEIRCE. — Electricity and Magnetism. 1 Gr. Total 1.
 20c. Professor HALL. — Heat and Electricity. 1 Gr. Total 1.
 20d. Professor SABINE. — Light and Heat. 2 Gr. Total 2.
 20e. Dr. G. W. PIERCE. — Radiation and Electromagnetic Waves. 1 Gr. Total 1.
 20f. Dr. H. W. MORSE. — Molecular Physics. 1 Gr. Total 1.

Chemistry.

Primarily for Undergraduates :—

1. Professor C. L. JACKSON, Dr. L. CLARKE, Mr. BELLAMY, and seven assistants. — Descriptive Inorganic Chemistry. 1 Gr., 10 Se., 25 Ju., 68 So., 85 Fr., 11 Sp., 110 Sc., 1 Bu. Total 311.
 2 ¹/₂f. Asst. Professor TORREY. — Organic Chemistry (elementary course). 2 Gr., 8 Se., 22 Ju., 38 So., 6 Fr., 8 Sp., 16 Sc. Total 95.
 3. Professor SANGER, Mr. CHAPIN, and four assistants. — Qualitative Analysis. 5 Se., 27 Ju., 32 So., 3 Fr., 8 Sp., 29 Sc. Total 99.

For Undergraduates and Graduates :—

- 17¹. Professor OSTWALD (University of Leipzig). — Fundamental Conceptions of Chemistry. 15 Gr., 1 Se., 1 Sc. Total 17.
 18¹. Professor OSTWALD (University of Leipzig). — Catalysis. 7 Gr., 1 Se., 1 Sc. Total 9.
 4. Asst. Professor BAXTER and Mr. HINES. — Quantitative Analysis, gravimetric and volumetric. 2 Gr., 2 Se., 6 Ju., 9 So., 1 Fr., 1 Sp., 7 Sc. Total 28.
 8 ³/₄f. Professor RICHARDS and Dr. LAMB. — The Historical Development of Chemical Theory. Elementary Physical Chemistry. 5 Gr., 5 Se., 17 Ju., 27 So., 4 Fr., 2 Sp., 12 Sc., 1 Me. Total 73.
 11. Professor SANGER and Professor WALKER (Mass. Institute of Technology). — Industrial Chemistry. 7 Gr., 6 Se., 3 Ju., 2 So., 9 Sc., 1 Bu. Total 28.
 9 ¹/₂f. Asst. Professor BAXTER and Mr. GRIFFIN. — Advanced Quantitative Analysis. 8 Gr., 1 Ju., 5 Sc. Total 14.
 10 ³/₄f. Asst. Professor BAXTER and Mr. GRIFFIN. — Gas Analysis. 6 Gr., 2 Se., 2 Ju., 7 Sc. Total 17.
 5. Asst. Professor TORREY and Mr. KIPPER. — The Carbon Compounds. 7 Gr., 7 Se., 8 Ju., 6 So., 10 Sc., 1 Bu. Total 39.
 5a ¹/₂f. Asst. Professor TORREY and Mr. KIPPER. — The Carbon Compounds. Laboratory work. 6 Gr., 6 Se., 4 Ju., 5 So., 9 Sc., 1 Bu. Total 31.

15 ²/_{hf}. Dr. HENDERSON. — General Biological Chemistry.

3 Gr., 5 Se., 3 Ju., 3 So., 5 Sc., 1 Bu. Total 20.

Primarily for Graduates:—

6. Professor RICHARDS and Mr. FEEVERT. — Physical Chemistry.

9 Gr., 7 Se., 3 Ju., 1 So., 8 Sc. Total 28.

12 ¹/_{hf}. Asst. Professor BAXTER. — Photochemistry, including the use of Optical Instruments in Chemistry. 3 Gr., 2 Se., 1 Ju., 2 Sc. Total 8.

7 ²/_{hf}. Dr. LAMB. — Electrochemistry. 8 Gr., 4 Se., 1 Ju., 5 Sc. Total 18.

13 ²/_{hf}. Dr. LAMB. — Experimental Electrochemistry. 3 Gr., 2 Se. Total 5.

14a. Dr. FORBES. — Chemical Kinetics.

8 Gr., 3 Se., 1 Ju., 2 So., 7 Sc. Total 21.

16 ¹/_{hf}. Asst. Professor TORREY. — The General Reactions of Organic Chemistry. 3 Gr., 2 Se., 5 Sc. Total 10.

COURSES OF RESEARCH.

20a. Professor RICHARDS. — Inorganic Chemistry, including Determination of Atomic Weights. 2 Gr. Total 2.

20b. Professor C. L. JACKSON. — Organic Chemistry. 2 Gr. Total 2.

20c. Asst. Professor TORREY. — Organic Chemistry.

3 Gr., 2 Se., 3 Sc. Total 8.

20d. Professor RICHARDS. — Physical Chemistry, including Electrochemistry.

6 Gr. Total 6.

20e. Professor SANGER. — Applied Chemistry.

1 Sc. Total 1.

20f. Asst. Professor BAXTER. — Inorganic Chemistry, including Determination of Atomic Weights. 5 Gr., 1 Se. Total 6.

Engineering.

The courses in Engineering are intended primarily for students in the Lawrence Scientific School, but many of them may be counted towards the degree of A.B. The Catalogue shows what courses may be so counted.

1a ¹/_{hf}. Asst. Professors LOVE and HUNTINGTON, and Messrs. FRIZELL and H. N. DAVIS. — Algebra. 3 Se., 5 Ju., 7 So., 2 Fr., 2 Sp., 92 Sc. Total 111.

1b ¹ or ²/_{hf}. Asst. Professors LOVE and HUNTINGTON, and Mr. FRIZELL. — Trigonometry. 3 Se., 10 Ju., 17 So., 19 Fr., 3 Sp., 101 Sc. Total 153.

1d ²/_{hf}. Asst. Professors LOVE and HUNTINGTON, and Mr. FRIZELL. — Analytic Geometry. 3 Se., 8 Ju., 13 So., 4 Fr., 104 Sc. Total 127.

1c. Asst. Professors LOVE and HUNTINGTON, and Messrs. FRIZELL and HOGG. — Differential and Integral Calculus. 3 Se., 6 Ju., 7 So., 66 Sc. Total 82.

3a. Messrs. A. E. NORTON, A. A. PARKER, ALDEN, and A. B. GREEN. — Mechanical Drawing. 6 Se., 10 Ju., 18 So., 16 Fr., 98 Sc. Total 148.

3b ²/_{hf}. Mr. A. E. NORTON. — Descriptive Geometry.

1 Se., 5 Ju., 7 So., 1 Fr., 45 Sc. Total 59.

- 3d¹hf.** Mr. A. E. NORTON and Mr. BARCLAY. — Mechanism. Study of Gearing and Mechanical Movements.
2 Se., 4 Ju., 6 So., 1 Sp., 50 Sc. Total 68.
- 4a.** Asst. Professor HUGHES and assistants. — Plane and Topographical Surveying. (See page 96.) 18 Ju., 38 So., 3 Fr., 4 Sp., 40 Sc. Total 103.
- 4c.** Asst. Professor HUGHES and assistants. — Geodetic Surveying. (See page 96.) 10 Ju., 28 So., 3 Fr., 3 Sp., 32 Sc. Total 76.
- 4d.** Asst. Professor HUGHES and assistants. — Railroad Engineering. (See page 96.) 2 Se., 11 Ju., 28 So., 3 Fr., 3 Sp., 35 Sc. Total 82.
- 10a.** Messrs. WHITING and MARKHAM. — Chipping, Filing, and Fitting. (See page 97.) 1 Se., 1 So., 1 Fr., 80 Sc. Total 83.
- 10b.** Messrs. WHITING and MARKHAM. — Blacksmithing. (See page 97.) 1 Se., 1 So., 1 Fr., 30 Sc. Total 38.
- 10c.** Messrs. WHITING and MARKHAM. — Pattern-making and Foundry Practice. (See page 97.) 1 Se., 1 So., 1 Fr., 27 Sc. Total 30.
- 10e.** Messrs. WHITING and MARKHAM. — Machine Shop Practice. (See page 97.) 1 Se., 1 So., 1 Fr., 28 Sc. Total 31.

For Undergraduates and Graduates : —

- 4e¹hf.** Professor OLMSTED, Asst. Professors HUGHES and PRAY. — Road Making and Maintenance. 1 Gr., 13 Sc. Total 14.
- 4f²hf.** Asst. Professor HUGHES. — Railroad Engineering (second course). Problems in railroad construction and maintenance. 2 Gr., 3 Se., 8 Sc. Total 13.
- 5b¹hf.** Asst. Professor JOHNSON and Mr. E. C. BROWN. — Elementary Statics. Graphic and Algebraic Methods. 3 Gr., 5 Se., 12 Ju., 5 So., 1 Fr., 1 Sp., 77 Sc. Total 104.
- 5e²hf.** Asst. Professors JOHNSON and HUNTINGTON. — Elementary Kinematics and Kinetics. 3 Se., 8 Ju., 3 So., 54 Sc. Total 68.
- 5d²hf.** Mr. A. E. NORTON. — Resistance of Materials (introductory course for students of Architecture). Elementary Structural Design. 1 Gr., 1 Se., 1 Ju., 3 Sc. Total 6.
- 5a.** Professor HOLLIS, Asst. Professor HUGHES, and Mr. DUFFEE. — Applied Mechanics, including Resistance of Materials. 3 Gr., 6 Se., 2 Ju., 1 So., 56 Sc. Total 68.
- 5f.** Asst. Professors JOHNSON and HUGHES. — Applied Mechanics (second course). Problems involved in the design of Bridges and Buildings. 1 Gr., 6 Sc. Total 7.
- 5g².** Professor HOLLIS. — Applied Mechanics (second course). Problems involved in the design of Machinery and Boilers. 10 Sc. Total 10.
- 6a²hf.** Asst. Professor HUGHES and Mr. DURANT. — Hydraulics and Hydraulic Motors. 2 Gr., 6 Se., 55 Sc. Total 63.
- 6e¹hf.** Asst. Professor HUGHES. — Water Supply and Sanitary Engineering. 1 Gr., 1 Se., 9 Sc. Total 11.

- 6d ¹hf. Asst. Professor HUGHES. — Canals, Rivers, and Harbors. Irrigation.
1 Gr., 1 Se., 8 Sc. Total 10.
- 7a. Asst. Professor JOHNSON. — Bridges and Buildings. Design of Framed Structures.
1 Gr., 6 Sc. Total 7.
- 8a ²hf. Asst. Professor JOHNSON. — Building Stones, Masonry and Foundations.
2 Gr., 8 Se., 26 Sc. Total 31.
- 11a ²hf. Asst. Professor MARKS, Messrs. MARKHAM and DURANT. — Steam Machinery (introductory course).
1 Gr., 4 Se., 11 Ju., 21 So., 3 Fr., 63 Sc. Total 103.
- 12b ¹hf. Asst. Professor MARKS and Mr. TYNG. — Elements of Thermodynamics. Theory of Heat Engines. 1 Gr., 6 Se., 1 Ju., 1 So., 48 Sc. Total 57.
- 12a ¹hf. Asst. Professor MARKS. — Efficiency and Economics of Heat Engines.
10 Sc. Total 10.
- 18a. Asst. Professor MARKS, Messrs. TYNG and DURANT. — Engineering Laboratory. Introductory course in experimental methods.
6 Se., 1 So., 57 Sc. Total 64.
- 13b¹. Asst. Professor MARKS and Mr. DURANT. — Engineering Laboratory (second course).
10 Sc. Total 10.
- 14b². Professor HOLLIS. — Machine Design (second course). 10 Sc. Total 10.
- 16a. Professor KENNELLY, Asst. Professor ADAMS, and Mr. WHITING. — Generation, Transmission, and Utilization of Electrical Energy (elementary course).
1 Gr., 7 Se., 5 Ju., 2 So., 31 Sc. Total 46.
- 16c. Professor KENNELLY. — Direct Current Dynamo-Electric Machinery.
2 Se., 1 Ju., 13 Sc. Total 16.
- 16e. Asst. Professor ADAMS. — Alternating Currents and Alternating Current Machinery.
17 Sc. Total 17.
- 16d. Asst. Professor ADAMS. — Dynamo Design. 16 Sc. Total 16.
- 16f. Mr. WHITING. — Electrical Engineering Laboratory. 16 Sc. Total 16.
- 17a ¹hf. Professor KENNELLY. — Electric Transmission and Distribution of Power.
1 Gr., 17 Sc. Total 18.
- 17b ²hf. Professor KENNELLY. — Telegraphy and Telephony. 18 Sc. Total 18.
21. Conference on Engineering Subjects. 1 Gr., 36 Sc. Total 37.
- 22². Asst. Professor WYMAN. — Contracts and Specifications. General Principles of Common Law governing Construction Contracts.
7 Gr., 5 Se., 1 So., 55 Sc. Total 68.

COURSES OF RESEARCH.

Primarily for Graduates:—

- 20b. Asst. Professor MARKS. Heat engines. 1 Gr. Total 1.
- 20c. Professor KENNELLY. Dynamo-Electric Machinery. 1 Gr., 1 Sc. Total 2.
- 20d. Asst. Professor JOHNSON. Reinforced Concrete. 1 Gr. Total 1.

Forestry.*For Undergraduates and Graduates:—*

- 1a ¹/₂f. Asst. Professor FISHER. — Elements of Silviculture.
3 Gr., 2 Se., 1 Ju., 2 So., 10 Sc., 3 Bu. Total 21.
- 1b ¹/₂f. Asst. Professor FISHER. — Practical Silviculture.
1 Gr., 3 Se., 1 So., 5 Sc., 2 Bu. Total 12.
- 2 ¹/₂f. Mr. HAWLEY. — Forest Measurements. 1 Se., 5 Sc. Total 6.
3. Messrs. JACK and CLARKE. — Forest Botany.
1 Se., 1 So., 6 Sc., 4 Bu. Total 12.
- 4 ¹/₂f. Asst. Professor CARY. — Forest Protection.
1 Gr., 10 Sc., 3 Bu. Total 14.
- 5 ¹/₂f. Asst. Professor FISHER. — Forest History. 1 So., 2 Sc. Total 3.
6. Asst. Professor CARY. — Lumbering. 3 Sc. Total 3.
7. Asst. Professors FISHER and CARY. — Forest Management.
3 Se., 1 Bu. Total 4.

Botany.*Primarily for Undergraduates:—*

- 1 ¹/₂f. Professor GOODALE and assistants. — Botany (introductory course).
1 Gr., 3 Se., 16 Ju., 43 So., 47 Fr., 10 Sp., 27 Sc. Total 147.
- 2 ¹/₂f. Asst. Professor JEFFREY, assisted by Messrs. CHIVERS and RIDDLE. —
Morphology of Plants. 2 Se., 7 Ju., 10 So., 2 Fr., 2 Sp., 11 Sc. Total 34.

For Undergraduates and Graduates:—

- 3a ¹/₂f. Asst. Professor JEFFREY, assisted by Mr. J. G. HALL. — Morphology,
Histology, and Cytology of Flowering Plants. 1 Se., 2 Sc. Total 3.
- 3b ¹/₂f. Asst. Professor JEFFREY, assisted by Mr. J. G. HALL. — Ecology and
Physiology of Flowering Plants. 1 Se., 2 Sc. Total 3.
- 4 ¹/₂f. Asst. Professor JEFFREY, assisted by Mr. CHIVERS. — The Algae, Liver-
worts, and Mosses. 1 Se. Total 1.
5. Professor GOODALE and Mr. AMES. — Outlines of Economic Botany.
1 Se. Total 1.
7. Mr. FERNALD. — Classification and Distribution of Flowering Plants, with
special reference to the Flora of New England and the Maritime Provinces.
1 Se., 1 So., 1 Sc. Total 3.
- 8 ¹/₂f. Asst. Professor JEFFREY, assisted by Dr. CHRYSLER. — The Anatomy,
Development, and Phylogeny of the Tracheate Zoidogama (Pteridophyta,
Cycadofilices, Fossil and Lower Gymnosperms). 2 Gr., 1 Se. Total 3.

*Primarily for Graduates:—***COURSES OF RESEARCH.**

- 20a. Professor GOODALE and Asst. Professor JEFFREY. — Experimental Vegetable
Physiology. Economic Botany, with special reference to Tropical Plants.
Structure and Development of Vascular Plants. 1 Gr. Total 1.

20b. Professor FARLOW and Asst. Professor JEFFREY. — Structure and Development of Cryptogams. 3 Gr., 1 Se. Total 4.

20c. Professor B. L. ROBINSON. — Taxonomy of Phanerogams. 1 Gr. Total 1.

Zoölogy.

Primarily for Undergraduates :—

1 ¹/_{hf}. Asst. Professor G. H. PARKER, Mr. L. J. COLE, and other assistants. — Zoölogy (introductory course).

2 Gr., 6 Se., 15 Ju., 31 So., 32 Fr., 8 Sp., 25 Sc. Total 119.

2 ²/_{hf}. Asst. Professor CASTLE, Mr. FIELD, and other assistants. — Morphology of Animals. 2 Gr., 2 Se., 10 Ju., 10 So., 3 Fr., 1 Sp., 9 Sc. Total 37.

For Undergraduates and Graduates :—

3. Dr. H. W. RAND and Mr. WALTER. — Comparative Anatomy of Vertebrates. 3 Gr., 2 Se., 6 Ju., 2 So., 8 Sc. Total 21.

4 ¹/_{hf}. Professor MARK and Dr. H. W. RAND. — Microscopical Anatomy.

2 Gr., 1 Se., 2 Ju., 1 Sc. Total 6.

6 ²/_{hf}. Professor MARK and Dr. H. W. RAND. — Embryology of Vertebrates. Organogeny. 3 Gr., 2 Ju., 1 Sc. Total 6.

11a ¹/_{hf}. Asst. Professor CASTLE. — Variation, Heredity, and the Principles of Animal Breeding. 10 Gr., 2 Se., 1 Ju., 1 Sc. Total 14.

11b ²/_{hf}. Asst. Professor CASTLE. — Natural History of the Domesticated Animals. 9 Gr., 1 Se., 1 Ju., 1 Sc. Total 12.

13 ¹/_{hf}. Asst. Professor G. H. PARKER. — Comparative Histology. Epithelial and Nervous Tissues. 6 Gr., 2 Ju. Total 8.

15 ²/_{hf}. Asst. Professor G. H. PARKER. — The Structure and Functions of the Nervous System and its Relation to Animal Habits. Sense Organs.

7 Gr., 2 Ju. Total 9.

Primarily for Graduates :—

COURSE OF RESEARCH.

20. Professor MARK, Asst. Professors G. H. PARKER and CASTLE. — Zoölogical Investigations. 12 Gr., 1 Se., 1 Sc. Total 14.

Geology.

GEOLOGY AND GEOGRAPHY.

Primarily for Undergraduates :—

A ¹/_{hf}. Dr. P. S. SMITH, assisted by Mr. SAUNDERS. — Physiography of the Lands. 2 Gr., 6 Se., 6 Ju., 9 So., 13 Fr., 5 Sp., 19 Sc., 3 Bu. Total 63.

B ²/_{hf}. Asst. Professor WARD, assisted by Mr. SAUNDERS. — Meteorology (elementary course). 3 Se., 7 Ju., 8 So., 5 Fr., 5 Sp., 14 Sc. Total 42.

4 ¹/_{hf}. Professor SHALER, assisted by Dr. P. S. SMITH; and Asst. Professor WOODWORTH, assisted by Messrs. EGGLESTON, EATON, and R. R. KENT. — Elementary Dynamical Geology.

1 Gr., 2 Se., 10 Ju., 16 So., 16 Fr., 1 Sp., 46 Sc. Total 92.

5 ¹/_{hf}. Asst. Professor WOODWORTH, assisted by Mr. EGGLESTON. — Elementary Historical Geology.

1 Gr., 3 Se., 7 Ju., 7 So., 5 Fr., 33 Sc., 1 Bu. Total 57.

1 ¹/_{hf}. Asst. Professor WARD. — Meteorology (secbnd course).

2 Se., 1 Ju., 1 So., 1 Fr., 2 Sc. Total 7.

For Undergraduates and Graduates : —

7 ¹/_{hf}. Professor DAVIS and an assistant. — Physiography of Europe.

4 Gr., 4 Se., 3 Ju., 1 So., 1 Fr., 8 Sc. Total 21.

8 ¹/_{hf}. Asst. Professor WOODWORTH. — Advanced General Geology.

5 Gr., 1 Se., 5 Ju., 1 So., 16 Sc., 1 Bu. Total 29.

10. Professor H. L. SMYTH, assisted by Mr. GALE. — Mining Geology.

3 Gr., 2 Se., 3 Ju., 16 Sc. Total 24.

22. Asst. Professor JAGGAR, assisted by Mr. MANSFIELD. — Advanced Geological Field Work. Areal Geology in the vicinity of Boston.

4 Gr., 1 Ju., 2 Sc. Total 7.

16 ²/_{hf}. Asst. Professor WOODWORTH. — Glacial Geology.

2 Gr., 3 Se., 5 Ju., 6 Sc. Total 16.

2 ²/_{hf}. Asst. Professor WARD. — Climatology of the United States.

4 Se., 4 So., 1 Fr., 6 Sc. Total 15.

19 ¹/_{hf}. Asst. Professor WARD. — General Climatology.

1 Gr., 2 Se., 1 Ju., 1 Sc. Total 5.

14 ¹/_{hf}. Professor SHALER, assisted by Mr. BARROWS. — General Palaeontology.

1 Gr., 7 Se., 4 Ju., 3 So., 5 Sc. Total 20.

23 ²/_{hf}. Professor SHALER, assisted by Mr. BARROWS. — Comparative Geology.

1 Se., 1 Ju., 1 So., 2 Sc. Total 5.

Primarily for Graduates : —

COURSES OF RESEARCH.

†20a. Professor DAVIS. — Physiography (advanced course). 2 Gr. Total 2.

20b. Professor H. L. SMYTH. — Mining Geology (advanced course).

1 Gr., 4 Sc. Total 5.

20c. Professors SHALER, DAVIS, WOLFF, and H. L. SMYTH, Asst. Professors WOODWORTH and JAGGAR. — Geological Investigation in the Field and Laboratory.

2 Gr., 1 Se., 1 Ju., 2 Sc. Total 6.

20d. Professor SHALER. — Advanced Palaeontology.

1 Se. Total 1.

20e. Asst. Professor WARD. — Climatology (advanced course). 1 Ju. Total 1.

MINERALOGY AND PETROGRAPHY.

Primarily for Undergraduates : —

2. Asst. Professor PALACHE, assisted by Mr. R. W. RICHARDS. — Mineralogy (including Crystallography, Physical and Chemical Mineralogy, and Descriptive Mineralogy).

3 Se., 5 Ju., 6 So., 18 Sc. Total 32.

For Undergraduates and Graduates : —

7 ¹/_{hf}. Asst. Professor PALACHE. — Advanced Mineralogy and Crystallography.

1 Gr., 1 Se. Total 2.

12. Professor WOLFF. — Petrography.

4 Gr., 1 Ju., 12 Sc. Total 17.

MINING AND METALLURGY.

Primarily for Undergraduates :—

- 1¹/₂hf. Professor H. L. SMYTH and Asst. Professor RAYMER, assisted by Mr. GALE. — Elements of Mining. Prospecting, exploring, development and the principles of exploitation. Stamp-milling and ore-concentration.
2 Gr., 2 Se., 4 Ju., 9 Sc. Total 17.
- 6³/₄hf. Asst. Professor C. H. WHITE, assisted by Mr. GRANGER. — Metallurgical Chemistry.
1 Gr., 2 Se., 2 So., 12 Sc. Total 17.
- 9³/₄hf. Asst. Professor SAUVEUR and Dr. BOYNTON. — General Metallurgy.
2 Gr., 3 Se., 3 Ju., 4 So., 1 Sp., 10 Sc. Total 23.
- 10¹/₂hf. Asst. Professor RAYMER, assisted by Messrs. SCHOLL and GRANGER. — Fire Assaying.
1 Gr., 3 Se., 2 Ju., 1 So., 10 Sc. Total 17.

For Undergraduates and Graduates :—

- 2¹/₂hf. Asst. Professor SAUVEUR and Dr. BOYNTON. — Metallurgy of Iron and Steel.
1 Gr., 3 Se., 38 Sc. Total 42.
- 3³/₄hf. Professor PETERS, assisted by Messrs. SCHOLL and GRANGER. — Metallurgy of Copper, Lead, Zinc, and the Minor Metals, and of the Precious Metals in connection with Copper and Lead.
1 Gr., 1 So., 16 Sc. Total 18.
4. Asst. Professor RAYMER, assisted by Mr. SCHOLL. — Ore-dressing, Concentration, and Milling.
13 Sc. Total 13.
- 5¹/₂hf. Professor H. L. SMYTH, assisted by Mr. GALE. — Metal and Coal Mining; Exploitation.
1 Gr., 15 Sc. Total 16.
7. Asst. Professor C. H. WHITE. — Metallurgical Chemistry (advanced course).
2 Sc. Total 2.
- 11³/₄hf. Asst. Professor RAYMER. — Mining Plant.
1 So., 12 Sc. Total 13.
12. Professor H. L. SMYTH. — Mining. The study of mining operations.
10 Sc. Total 10.
- 14³/₄hf. Asst. Professor SAUVEUR and Dr. BOYNTON. — Metallography.
1 Gr., 3 Sc. Total 4.
- 15³/₄hf. Professor PETERS. — Metallurgy of Zinc, Nickel, Tin, Mercury, and the Minor Metals.
1 So., 3 Sc. Total 4.

Primarily for Graduates :—

- 8¹. Asst. Professor C. H. WHITE. — Leaching Processes for Gold and Silver Ores.
4 Sc. Total 4.
- 17³. Asst. Professor RAYMER. — Mine Surveying.
3 Sc. Total 3.
- 22¹. Asst. Professors RAYMER and C. H. WHITE. — Problems in the Treatment of Ores.
2 Sc. Total 2.
- 24². Professor H. L. SMYTH. — Mine Examination and Reports.
1 Gr., 4 Sc. Total 5.
- 26³/₄hf. Professor PETERS. — Advanced Course in the Metallurgy of Copper, Lead, and the Minor Metals.
9 Sc. Total 9.
- 28¹/₂hf. Asst. Professor JAGGAR, assisted by Mr. MANSFIELD. — Geological Surveying.
13 Sc. Total 13.
- 30³. THE INSTRUCTORS IN THE DEPARTMENT. — Mining and Metallurgical Projects and Design.
4 Sc. Total 4.

COURSE OF RESEARCH.

20. Asst. Professor SAUVEUR. — Metallurgy and the Physics of Metals.

2 Gr., 2 Sc. Total 4.

Anthropology.*Primarily for Undergraduates: —*

1. Dr. FARABEE, assisted by Mr. STEFÁNSSON. Occasional lectures by Professor PUTNAM. — General Anthropology.

3 Se., 24 Ju., 27 So., 1 Fr., 4 Sp., 2 Sc., 1 Bu. Total 62.

For Undergraduates and Graduates: —

5. Dr. DIXON, assisted by Mr. STEFÁNSSON. Occasional lectures by Professor PUTNAM. — American Archaeology and Ethnology.

10 Se., 16 Ju., 46 So., 2 Fr., 3 Sc., 1 Bu. Total 78.

4¹/₂h. Dr. FARABEE. — Prehistoric Archaeology. European Ethnography.

1 Gr., 4 Se., 2 Ju., 3 So., 3 Sc., 1 Bu. Total 14.

7¹/₂h. Dr. DIXON. — Ethnology of Oceania.

2 Se., 1 Ju., 2 So., 1 Sc., 1 Bu. Total 7.

Primarily for Graduates: —†2³/₄h. Dr. FARABEE. — Somatology. 1 Gr., 3 Se., 1 Ju., 1 So. Total 6.†9¹/₄h. Dr. TOZZER. — Archaeology and Ethnology of Central America.

2 Se., 1 Ju., 1 So. Total 4.

COURSES OF RESEARCH.

†20a. Professor PUTNAM. — American Archaeology and Ethnology.

1 Gr., 3 Se., 2 Ju., 1 So. Total 7.

†20b. Dr. FARABEE. — Advanced Somatology.

1 Gr. Total 1.

†20c. Dr. DIXON. — Studies in American Languages.

1 Se., 1 So. Total 2.

20d. Dr. DIXON. — General Ethnology.

1 Gr. Total 1.

Anatomy, Physiology, and Hygiene.

1. Drs. DARLING, PROVANDIE, BACON, HAPGOOD and JOUETT. — Elementary Anatomy and Physiology. Personal Hygiene. Emergencies.

1 Gr., 18 Se., 57 Ju., 57 So., 6 Fr., 4 Sp., 10 Sc. Total 153.

In accordance with the vote of the President and Fellows whereby the Faculty may under certain conditions authorize a Doctor of Philosophy or a Doctor of Science to give instruction gratuitously or for such fees as he may himself collect, Percy Adams Hutchison, Ph.D., was authorized to give in the first half-year a course of lectures on Readings in German Philosophy; and James Carleton Bell, Ph.D., in the second half-year, a course of lectures on Abnormal Psychology.

Enrolments in the Various Departments of Study.

On page 30 of the President's Report for the year 1904-05 is a table showing the number of enrolments in each department of study

under the Faculty of Arts and Sciences. I reprint that table, with some changes, adding corresponding figures for 1905-06, that the enrolments in the two years may be compared :—

ENROLMENTS IN COURSES.

1904-05.				1905-06.			
	Half	Whole	Total		Half	Whole	Total
Semitic	21	77	87.5	Semitic	20	64	74.
Egyptology		38	38.	Indic Philology . .	10		5.
Indic Philology . .	17		8.5	Classics	238	459	578.
Classics	351	544	719.5	Comp. Philology . .	11		5.5
English	1212	957	1568.	English	1326	977	1640.
Public Speaking . .	102	35	86.	Public Speaking . .	111	57	112.5
German	80	888	928.	German	80	816	856.
Scandinavian . . .		6	6.	Scandinavian . . .		12	12.
Romance Lang. . .	105	974	1026.5	Netherlandish . . .	14		7.
Comp. Literature . .		14	14.	Romance Lang. . .	67	935	968.5
Celtic	2	1	2.	Comp. Literature . .		19	19.
Slavic	65	10	42.5	Celtic	6		3.
History	592	847	1143.	Slavic	63	5	36.5
Government	39	631	650.5	History	548	761	1035.
Economics	909	800	1254.5	Government	72	710	746.
Hist. of Religions .	54	35	62.	Economics	717	868	1221.5
Philosophy	245	522	644.5	Hist. of Religions .	43	35	56.
Education	44	60	82.	Philosophy	99	486	535.5
Fine Arts		227	227.	Social Ethics . . .	248	3	127.
Architecture	80	218	258.	Education	78	42	81.
Land. Architecture .	8	53	57.	Fine Arts	1	249	249.5
Music	11	195	200.5	Architecture . . .	56	212	240.
Mathematics	180	262	352.	Land. Architec. . .		73	73.
Astronomy	150	5	80.	Music	18	152	161.
Physics	63	403	434.5	Mathematics	205	246	348.5
Chemistry	285	588	730.5	Astronomy	194	2	99.
Engineering	1470	676	1411.	Physics	86	341	384.
Forestry	39	16	35.5	Chemistry	304	579	731.
Botany	313	5	161.5	Engineering	1384	655	1322.
Zoölogy	277	44	182.5	Forestry	56	19	47.
Geology	464	72	304.	Botany	191	10	105.5
Mineralogy	10	44	49.	Zoölogy	211	35	140.5
Mining	246	34	157.	Geology	372	46	232.
Anthropology . . .	46	233	256.	Mineralogy	2	49	50.
Hygiene		139	139.	Mining	211	29	134.5
	7480	9653	13393.0	Anthropology . . .	31	151	166.5
				Hygiene		153	153.
					7022	9245	12756.0

I print also the number of enrolments in every course containing more than a hundred students, together with the corresponding figures in the preceding years. In the 1904-05 column the words "not given" do not indicate that the courses were newly established in 1905-06. In English Literature, for example, certain half-courses are regularly given every second year.


Course	No. of students in 1905-06.	No. of Students in 1904-05.
Latin <i>B</i>	125	136
Latin 10	115	Not given
English <i>A</i>	504	568
English 31	175	211
English 28	104	110
English 2	112	120
English 42 <i>b</i>	102	Not given
English 15 ²	129	Not given
English 8 <i>a</i>	160	Not given
English 8 <i>b</i>	127	99
English 33	131	Not given
German <i>A</i>	243	289
French <i>A</i>	119	144
French 2 <i>c</i>	165	196
French 2 <i>a</i>	104	107
History 1 <i>a</i>	331	380
History 12 <i>a</i>	102	74
History 16 <i>a</i>	141	179
History 16 <i>b</i>	125	159
History 13	108	139
Government 1	384	431
Government 16	116	Not given
Economics 1	470	438
Economics 7 ²	137	Econ. 7 <i>b</i> 45
Economics 5 ¹	138	139
Economics 8 <i>b</i>	105	82
Economics 2 ¹	150	182
Philosophy 1 <i>a</i>	226	215
Social Ethics 1 ²	165	Phil. 5 122
Astronomy 1	166	180
Physics <i>C</i>	180	198
Chemistry 1	311	332
Engineering 1 <i>a</i>	111	121
Engineering 1 <i>b</i>	153	161
Engineering 1 <i>d</i>	127	127
Engineering 3 <i>a</i>	148	145
Engineering 4 <i>a</i>	103	107
Engineering 5 <i>b</i>	104	125
Engineering 11 <i>a</i>	103	119
Botany 1	147	219
Zoölogy 1	119	184
Elementary Anatomy and Physiology 1 (Personal Hygiene)	153	139

Economics 1 continues to be the largest elective course, with 86 more students than Government 1. The failure of Mathematics to appear in the list is misleading. Engineering 1a is Algebra; Engineering 1b is Trigonometry; Engineering 1d is Analytic Geometry. With many students these courses, though elective in the sense that they are part of an elected general programme (in Engineering), are prescribed in that programme. English A, English 31, German A, and French A are prescribed for nearly all the students who take them.

Anthropology 1, which had risen from 49 in 1903-04 to 159 in 1904-05, dropped to 62 in 1905-06. These changes in the election of a new and therefore somewhat unstable subject are significant. An elementary course in a new subject is likely to draw not only those students to whom the subject is of serious interest, but those other students who are looking for a not too strenuous elective home. The presence of such persons in large numbers reacts on the professor, who proceeds to make the course harder with a view to driving them out. Semitic 12, the History of Israel, beginning with 19 students in 1889-90, rose to 128 in 1896-97, and fell to 27 in 1905-06. History of Religions 2 began with 4 students in 1901-02, rose to 89 students in 1904-05, fell in 1905-06 to 73, and this year has fallen to 36.

Owing to the absence of Assistant Professor Lythgoe, no instruction in Egyptology was offered in 1905-06. Assistant Professor Lythgoe has now resigned, and has connected himself with the Metropolitan Art Museum of New York.


Summer Courses of Instruction in 1906.

The following courses (fifty-nine as compared with seventy-one in 1905) were given, under the direction of the Faculty, in the summer of 1906. The abbreviations, with the addition of S.S. for "member of the Summer School," are the same as those in the preceding list. A hand  points to each course that may be counted toward a degree:—

Greek.

Asst. Professor GULICK.—Greek for Beginners. 5 times a week, for 6 weeks.
1 R., 8 S.S. Total 9.

Classical Archaeology.

 Dr. O. S. TONKS (Princeton Univ.).—History of Ancient Art. 5 times a week, for 6 weeks. 1 R., 3 Ju., 5 So., 10 Fr., 4 Sc., 9 S.S. Total 32.

Mr. F. S. DARROW.—Greek Vase Painting. 5 times a week, for 6 weeks.
1 R., 1 Gr., 1 S.S. Total 3.

Latin.

Asst. Professor RAND. — General Course for Teachers. 5 times a week, for 6 weeks. 15 S. S. Total 15.

Asst. Professor RAND. — The Life and Works of Ovid. 5 times a week, for 6 weeks. 1 R., 1 Fr., 2 S. S. Total 4.

English.

A. Dr. C. N. GREENOUGH. — English Composition (elementary course). 5 times a week, for 6 weeks. 1 R., 41 S. S. Total 42.

B. Mr. W. R. CASTLE, Jr. — English Composition (advanced course). 5 times a week, for 6 weeks. 12 S. S. Total 12.

C. Mr. R. P. UTTER. — English Composition (second advanced course). 5 times a week, for 6 weeks. 8 S. S. Total 8.

Professor H. B. HUNTINGTON (Brown Univ.). — College Admission Requirements in English. 5 times a week, for 6 weeks. 60 S. S. Total 60.

Dr. H. DE W. FULLER. — Anglo-Saxon. Anglo-Saxon Reader and Grammar. 5 times a week, for 6 weeks. 1 R., 1 So., 1 Fr., 7 S. S. Total 10.

Dr. H. DE W. FULLER. — Shakspeare. 5 times a week, for 6 weeks. 9 S. S. Total 9.

Professor F. E. FARLEY (Simmons College). — English Literature of the Eighteenth Century. 5 times a week, for 6 weeks. 8 S. S. Total 8.

Mr. W. R. CASTLE, Jr. — English Literature of the Nineteenth Century, from the publication of the Lyrical Ballads to the death of Tennyson. 5 times a week, for 6 weeks. 19 S. S. Total 19.

Mr. COPELAND. — English and American Biography. 5 times a week, for 6 weeks. 10 S. S. Total 10.

Dr. C. N. GREENOUGH. — Literary History of America. 5 times a week, for 6 weeks. 9 S. S. Total 9.

Public Speaking, Platform Reading, Voice Training.

Mr. WILLARD. — Development of the Voice. 5 times a week, for 6 weeks. 1 Fr., 12 S. S. Total 13.

Mr. HILLS. — Reading and Oral Discussion. 5 times a week, for 6 weeks. 4 S. S. Total 4.

Mr. HILLS. — Platform Speaking. 5 times a week, for 6 weeks. 1 Fr., 7 S. S. Total 8.

German.

Mr. GROSSMANN. — Composition and Conversation; Methods of Teaching German. 5 times a week, for 6 weeks. 1 R., 1 Ju., 2 So., 1 Sc., 1 Gr., 18 S. S. Total 24.

French.

Mr. W. B. SNOW. — Intermediate French Course for Teachers. 5 times a week, for 6 weeks. 2 Gr., 15 S. S. Total 17.

Spanish.

Asst. Professor FORD.—Introductory Course. 5 times a week, for 6 weeks.

4 S. S. Total 4.

History and Government.

☞ Professor W. S. FERGUSON (Univ. of California).—Greek History. 5 times a week, for 6 weeks. 7 S. S. Total 7.

☞ Professor S. B. FAY (Dartmouth College).—Modern European History. 5 times a week, for 6 weeks. 8 S. S. Total 8.

☞ Professor W. MACDONALD (Brown Univ.).—English History. 5 times a week, for 6 weeks. 1 R., 8 S. S. Total 9.

☞ Professor W. MACDONALD (Brown Univ.).—American History. 5 times a week, for 6 weeks. 1 Ju., 17 S. S. Total 18.

Economics.

☞ Professor CARVER.—Principles of Sociology. 5 times a week, for 6 weeks. 2 R., 1 Se., 8 Ju., 6 So., 3 Fr., 1 Sc., 1 Gr., 2 S. S. Total 24.

☞ Professor CARVER.—Methods of Social Reform. 5 times a week, for 6 weeks. 6 Ju., 6 So., 2 Fr., 1 Sc., 3 S. S. Total 18.

Philosophy.

☞ { Professor ROYCE.—General Introduction to Philosophy. 5 times a week, for 6 weeks. 1 So., 22 S. S. Total 23.

☞ { Professor ROYCE.—Introduction to Ethics. 5 times a week, for 6 weeks. 1 So., 22 S. S. Total 23.

Psychology.

☞ { Dr. YERKES.—Descriptive Psychology. 5 times a week, for 6 weeks. 8 S. S. Total 8.

☞ { Dr. YERKES.—Experimental Psychology. 5 times a week, for 6 weeks. 2 S. S. Total 2.

☞ { Dr. YERKES.—Comparative Psychology. 5 times a week, for 6 weeks. 2 S. S. Total 2.

Education.

☞ S1. Asst. Professor A. O. NORTON.—The History of Education since the Twelfth Century. 5 times a week, for 6 weeks.

1 Se., 12 S. S. Total 13.

☞ S2. Asst. Professor A. O. NORTON.—General Principles of Education, and Courses of Study. 5 times a week, for 6 weeks.

1 Se., 24 S. S. Total 25.

Theory of Pure Design.

☞ Dr. ROSS and Asst. Professor MOWLL, assisted by Mr. E. O. PARKER.—Eighteen lectures and daily conferences. Eighteen hours a week of experimental practice, for 6 weeks. 1 Fr., 1 Sc., 44 S. S. Total 46.

Landscape Painting.

- ✎ Messrs. A. POPE and M. MOWER. — General Consideration of Landscape.
5 times a week, for 6 weeks. 1 R., 1 So., 3 Fr., 8 S. S. Total 13.

Architecture.

- Mr. SWAN. — Architectural Drawing. Theory and Practice. 5 times a week,
for 6 weeks. 1 Ju., 1 Sc., 3 S. S. Total 5.
- ✎ Professor H. L. WARREN. — History of European Architecture to about the
year 1000. 5 times a week, for 6 weeks.
2 R., 3 Ju., 6 So., 4 Fr., 1 Sc., 5 S. S. Total 21.
- ✎ Professor H. L. WARREN. — History of European Architecture from
1000 A.D. to close of Renaissance. 5 times a week, for 6 weeks.
4 S. S. Total 4.

Music.

- ✎ Mr. HEILMAN. — Harmony and Simple Counterpoint. 5 times a week, for
6 weeks. 1 Fr., 10 S. S. Total 11.
- ✎ Asst. Professor SPALDING. — Musical Analysis. 5 times a week, for
6 weeks. 1 Fr., 5 S. S. Total 6.

Mathematics.

- ✎ SD. Dr. H. N. DAVIS. — Advanced Algebra. 5 times a week, for 6 weeks.
1 Ju., 3 So., 1 Sc., 8 S. S. Total 13.
- ✎ SE. Mr. A. B. FRIZELL. — Solid Geometry. 5 times a week, for 6 weeks.
5 So., 1 Sc., 3 S. S. Total 9.
- ✎ SA. Asst. Professor LOVE. — Plane Trigonometry. 5 times a week, for
6 weeks. 1 Se., 2 Ju., 6 So., 2 Fr., 2 Sc., 6 S. S. Total 19.
- ✎ SB. Mr. A. B. FRIZELL. — Plane Analytic Geometry. 5 times a week, for
6 weeks. 2 Sc., 6 S. S. Total 8.
- S2. Professor OSGOOD. — Differential and Integral Calculus. 5 times a week,
for 6 weeks. 3 Sc., 9 S. S. Total 12.

Astronomy.

- ✎ Professor WILLSON and Mr. W. C. BRENKE. — Elementary Course in Prac-
tical Astronomy. 5 times a week, for 6 weeks.
1 R., 1 Ju., 2 So., 1 Fr., 1 S. S. Total 6.

Physics.

- B. Professor W. E. McELFRESH (Williams College) and Mr. L. D. HILL. —
Elementary Experimental Physics. 5 times a week, for 6 weeks.
1 So., 22 S. S. Total 23.
- ✎ C. Dr. H. W. MORSE. — Advanced Course in Experimental Physics.
5 times a week, for 6 weeks. 9 S. S. Total 9.

Chemistry.

Asst. Professor BAXTER and Mr. A. C. BOYLSTON.—Elementary Chemistry.
5 times a week, for 6 weeks. 14 S. S. Total 14.

Asst. Professor BAXTER.—Qualitative Analysis. 5 times a week, for 6 weeks.
1 Ju., 1 Gr., 6 S. S. Total 8.

Dr. A. B. LAMB.—Physical Chemistry. 5 times a week, for 6 weeks.
3 S. S. Total 3.

Asst. Professor BAXTER.—Chemical Research. 5 times a week, for 6 weeks.
3 Gr., 1 S. S. Total 4.

Botany.

S1. Dr. R. G. LEAVITT, and Messrs. J. G. HALL and L. J. SPALDING.—
Introductory Course: The Structure, Physiology, and Ecology of Flower-
ing Plants. 5 times a week, for 6 weeks.
2 R., 1 Ju., 3 Fr., 11 S. S. Total 17.

S2. Dr. M. A. CHRYSLER.—Advanced Course: Morphology, Histology and
Ecology of Flowering Plants. 5 times a week, for 6 weeks.
1 So., 3 S. S. Total 4.

Geology.

S1. Professor DAVIS, Asst. Professors WOODWORTH and JAGGAR, and Mr.
J. W. EGGLESTON.—Elementary course. Lectures, laboratory, and field
work. 5 times a week, for 6 weeks.
1 Ju., 2 So., 2 Sc., 5 S. S. Total 10.

S2. Asst. Professors WOODWORTH and JAGGAR.—General Field Geology.
1 Se., 1 Sc. Total 2.

Geography.

Mr. G. R. MANSFIELD.—Lectures, laboratory, and field work. 5 times a
week, for 6 weeks. 1 R., 10 S. S. Total 11.

Physical Education.

Dr. SARGENT and assistants.—Elementary and advanced courses in theory.
5 weeks. 62 S. S. Total 62.

Dr. SARGENT and assistants.—Elementary and advanced courses in practice.
5 weeks. 120 S. S. Total 120.

The following courses were given in the summer as part of the
regular instruction of the Lawrence Scientific School. Some of
them were given at Squam Lake, New Hampshire:—

Engineering.

4a. Asst. Professor HUGHES.—Plane Surveying. Field work. Daily, 6 weeks.
18 Ju., 38 So., 3 Fr., 4 Sp., 40 Sc., 7 S. S. Total 110.

4d. Asst. Professor HUGHES.—Railroad Surveying. Daily, 3 weeks.
2 Se., 11 Ju., 28 So., 3 Fr., 3 Sp., 35 Sc., 4 S. S. Total 86.

4c. Asst. Professor HUGHES.—Geodetic Surveying. Daily, 2 weeks.
10 Ju., 28 So., 3 Fr., 3 Sp., 32 Sc., 3 S. S. Total 79.

- 10a. Mr. S. E. WHITING, assisted by Mr. E. R. MARKHAM. — Chipping, filing, and fitting. 90 hours. 1 Se., 1 So., 1 Fr., 30 Sc., 1 S. S. Total 34.
- 10b. Mr. S. E. WHITING, assisted by Mr. E. R. MARKHAM. — Blacksmithing. 90 hours. 1 Se., 1 So., 1 Fr., 30 Sc., 1 S. S. Total 34.
- 10c. Mr. S. E. WHITING, assisted by Mr. E. R. MARKHAM. — Pattern Making, etc. 90 hours. 1 Se., 1 So., 1 Fr., 27 Sc., 1 S. S. Total 31.
- 10e. Mr. S. E. WHITING, assisted by Mr. E. R. MARKHAM. — Machine-Shop Practice. 90 hours. 1 Se., 1 So., 28 Sc., 2 S. S. Total 32.

Instruction provided for 1906-07.

The interchange of Professors with Germany brings Professor Kühnemann, who lectures on Contemporary German Drama and on "Die Blütezeit der deutschen Literatur im achtzehnten Jahrhundert."

In the absence of Professor Lyon, Semitic 12 (History of Israel) is conducted by Professor G. F. Moore. The Department of English is strengthened by the return of Dr. Neilson as full professor, and by the addition—in the second half-year—of Professor Bliss Perry. In the Department of German, Professor von Jagemann resumes work after a long sickness. The most striking addition to the elective pamphlet results from the transference of Professor Schofield to Comparative Literature, and the reorganization by him of work in that field. The offering in Comparative Literature has hitherto appeared meagre, because many courses in which the study of literature is comparative have been classified in other Departments, and there has been no acknowledged Department of Comparative Literature. The new announcement allies to the new Department many of the strongest teachers in the University. It shows, also, the belief of the Faculty that Comparative Literature may be profitably studied by undergraduates; for it announces Professor Wendell's English 46 (now entitled European Literature, General Survey) under the name of Comparative Literature 1, among Courses Primarily for Undergraduates. This course has been called "the 'History 1'" of Comparative Literature. In Philosophy, Assistant Professor Santayana returns; in Botany, Professor Thaxter. As a whole, the elective offering of 1906-07 is probably stronger than that of any other year in the history of the University.

Harvard University and the New England Conservatory of Music.

In October, the Faculty sanctioned a "reciprocal scheme of work" in Music and allied courses for students at Harvard University and at the New England Conservatory of Music. As a result, advanced students of Music in the University have access to certain courses of

great value at the Conservatory, and count their work in those courses towards a Harvard degree. In return, selected pupils at the Conservatory have access to certain courses (courses in English Composition, for example) at the University.

QUESTION FROM THE BOARD OF OVERSEERS REGARDING
THE VALUE OF THE SMALLER ELECTIVE COURSES.

In considering the deficits of recent years, the Board of Overseers raised the question whether some of the smaller elective courses are not too costly to be maintained. In a communication to the Faculty, the Overseers suggested a distinction between "University courses" and "College courses." By "University courses" they meant advanced courses designed chiefly for graduates, and usually unsuitable for large numbers of students. Such courses seemed to them necessary, or at least defensible. The courses they challenged were those designed for the less mature, yet chosen by few; for they doubted whether the instructors in such courses were economically employed.

There are obvious dangers in regarding the number of students in a course as a criterion of its value. Nothing would be much more unfortunate than the requirement that an instructor shall make a course popular, and there is grave doubt whether our most dangerous courses are not our biggest ones. Yet if expenses are constantly exceeding receipts, it is simply good business to decrease the one, or to increase the other, and to test carefully all expenditures. A small course occupying a large fraction of an instructor's time should usually be a course in a subject which a university cannot neglect: it may be work for a few advanced students of whom one or two are of marked promise; it may cover a period in history or in literature which, though comparatively unimportant, cannot be overlooked in an elective curriculum. Now and then, also, a small course is an instructor's best means of keeping up and advancing his scholarship. Firmly believing that every course offered in Harvard University is of value, I believe more firmly that the number of courses should not be maintained against thoroughness in individual courses. Furthermore a certain amount of rather elementary teaching by the stronger men in the Faculty does untold good to the younger students. With a diminished elective offering would come a partial compensation from a reduction in the necessary number of assistants and minor instructors, and from a transference of the teachers of the abandoned small courses to fields in which their influence would be wider.

THE NEW COMMITTEE ON ADMISSION.

In my last Report, I referred to a suggestion of the Secretary of the Faculty of Arts and Sciences, Mr. John Goddard Hart, that the Committee on Admission Examinations should end its work with the reading of the examination books, and that a new Committee on Admission should be created which should give the case of every candidate what personal attention a just and sympathetic consideration of it might require. In December, 1905, the Faculty, on the motion of Mr. Hart, voted "That a single committee be appointed to exercise the function of admitting students to courses of instruction under the Faculty of Arts and Sciences." In January, the President appointed, to constitute this Committee, Mr. J. G. Hart (Chairman), Professors Sabine and Haskins, Mr. J. D. Greene, and Mr. E. H. Wells. Next to the reorganization of the Lawrence Scientific School, the creation of this Committee was the most important act of the Faculty in the academic year. Formerly one committee dealt with candidates for admission to Harvard College by examination, another with candidates for transference from other colleges, another with candidates for admission as Special Students, another with candidates for admission to the Lawrence Scientific School by examination, and still another with candidates for transference to the Lawrence Scientific School from other scientific schools. A youth rejected by one committee tried another and then another, and not infrequently profited — or at least gained a foothold in the University — by so doing. The new Committee "places" the candidates according to their attainments, takes infinite pains in doubtful cases, and strives at once to avoid the loose and accidental and to escape unintelligent entanglement in its own rules. Almost immediately after the Committee was organized, it proposed and carried in the Faculty two motions: (1) That a school shall be free to present a boy at any regular examination period for such examinations as he is prepared to take; (2) That a candidate who has received a certificate of preparation from his school or tutor shall receive credit for any subject or subjects he passes.

The circular letters of the Committee to schools were greeted with enthusiasm. A hundred and four schools no one of which had ever been represented in the Freshman Class at Harvard College communicated with Mr. Hart about Harvard admission examinations. Many of these schools are high schools in towns or in small cities.

DEGREE WITH DISTINCTION IN HISTORY AND LITERATURE.

In April, the Faculty on the motion of Professor Lowell voted :

(a) "That the degree of A.B. be granted with distinction in History and Literature on the recommendation of a committee to be appointed for the purpose by the President ;

(b) "That the committee report for the approval of the Faculty regulations for the granting of that distinction which shall comprise considerable reading of classical works in English and in other languages, apart from the courses taken in College."

The President appointed as the committee in charge of candidates for this new degree with distinction, Professor Lowell (Chairman), Professors Wendell, Haskins, and Schofield, Dr. Merriman and Dr. Greenough. I print an outline of the scheme of work advised by the Committee : —

Proposed Plan for the Degree with Distinction in History and Literature.

1. As early as possible in his College career, the candidate must present, for approval by the Committee, a plan of study which shall comprise at least six courses, selected from those offered in History and in Literature, — taking both terms in their most comprehensive sense, — and usually not including courses regularly open to Freshmen. These courses should be so selected as to come under some general scheme of study of the history and the literature either of a nation or of a period : for example, —

The History and Literature (a) of Greece, (b) of Rome, (c) of England, (d) of France, etc.

The History and Literature (e) of the Middle Ages, (f) of the Renaissance, (g) of the Eighteenth Century, (h) of the Nineteenth Century, etc.

Under such schemes as (c), (g), and (h), it is evident that study of the history and literature of America would generally be included.

The candidate will normally be expected to divide his work about equally between courses in History and courses in Literature ; but will ordinarily include, either in courses taken or in outside reading, the history of Philosophy and of the Fine Arts in the country or the period selected for his general field of study.

2. To complete his knowledge of the country or the period chosen, the candidate will pursue a course of general reading both in the principal authors of the country or the period in question and in the works of standard authorities concerning these matters. This

general reading, which may conveniently be done during summer vacations, must in every case be approved and directed by the Committee.

3. Not later than April 1 of his final year of preparation, the candidate must present to the Committee a thesis, the subject of which has been approved, on some special topic within his general field of study. At some subsequent time appointed by the Committee, the candidate must present himself before them for general examination — either written, or oral, or both — concerning his whole field of study.

4. A candidate who has satisfied the Committee of his proficiency will be recommended by them for the Degree with Distinction in History and Literature, and may be excused from the final examinations in his Senior year in the courses offered for the Degree with Distinction.

Undergraduates, slow as they have been to accept the requirements of the Faculty for Honors in various Departments, responded quickly to the new proposition. "On October 29th," says Professor Wendell, the acting chairman of the Committee, "when I made a report to the Committee, ninety-nine men in all had applied to me. Of these, forty-three, among them four Seniors, had decided to study for distinction in History and Literature; thirty-three had preferred by the advice of the Committee to consider studying for distinction in some regular Department; eighteen had withdrawn altogether; and five had not been heard from." It will be observed that the new plan offers a reward for the best kind of general reading, and gives an opportunity of distinction to many students who, though they may be using their college years wisely for intellectual development, are shut out from other forms of distinction by somewhat technical requirements. The immediate response of the students is a fresh indication of their willingness to work in what appeals to their ambition.

CHANGES IN THE ANNOUNCEMENT OF REQUIREMENTS FOR THE DEGREE OF A.M.

In June, the Faculty voted, on the motion of Professor Hanus, to make certain changes in the announcement of the requirements for the degree of A.M. In the University Catalogue for 1905-06 occurs this sentence: "The programme of study for the degree of Master of Arts must form a consistent plan of work pursued with some definite aim, though it need not lie wholly in one Department or field;

this work may be done either in, or in connection with, the regular courses of instruction, or independently of them." As changed by vote of the Faculty, the sentence reads, "The programme of study for the degree of Master of Arts must form a consistent plan of work pursued with some definite aim, whether it lies wholly in a single Department or field of study or in more than one; this work may be done either in, or in connection with, the regular courses of instruction, or independently of them." The change in the sentence, though apparently slight, expresses hospitality towards candidates for the Master's degree whose work is not highly specialized, provided their purpose is definite. A superintendent of schools, for example, may spend a year in the Graduate School of Arts and Sciences, with a definite professional intent which necessitates work in several Departments, and may thoroughly deserve, as evidence of that work, the degree of A.M.

FRIDAY AFTERNOON AND SATURDAY COURSES FOR TEACHERS.

At the very end of the year, the Faculty took steps toward the establishment of Friday Afternoon and Saturday Courses for Teachers, whether men or women. A preliminary announcement was authorized, and several of the courses are now under way. Though it is too early to judge even the immediate success of this undertaking, indications are encouraging.

THE GRADUATE SCHOOL OF APPLIED SCIENCE AND THE DEGREE OF S.B. IN HARVARD COLLEGE.

The most important enterprise of the year was the reorganization of work which has hitherto been done in the Lawrence Scientific School. With the immediate prospect of a Graduate School of Applied Science, it became necessary to consider the relation of the new school to the old, and of both the new and the old to Harvard College. The professional four-year programmes for the degree of S.B. in the Lawrence Scientific School are continued; the students in General Science are transferred to Harvard College, where they belong; Harvard College now gives the degree of S.B., not necessarily for specialized work, as well as the degree of A.B.; and holders of the A.B. as well as of the S.B. will be encouraged to study Applied Science in the new school. This school is likely to receive pupils with wider preliminary training than those of many technical schools in America, and thus to graduate larger-minded men.

The future of the degree of S.B. in Harvard College is problematic. Candidates for this degree have equal elective opportunity with candidates for the degree of A.B., so far as their training in the secondary school permits; and with the strengthening of the admission requirements for such persons, the fundamental difference between A.B. and S.B. in Harvard College may be nothing more than the difference between the Elementary Latin of the admission examinations and some modern substitute therefor. No man can tell how long two degrees so similar may be separately maintained.

DEATH OF PROFESSORS.

Dean Shaler, who had done more than any other man to build up the Lawrence Scientific School and to insure the establishment of the Graduate School of Applied Science, died before his plans could be fulfilled. His death followed closely that of Professor J. M. Peirce, the first Dean of the School now known as the Graduate School of Arts and Sciences, and was itself followed at no long interval by the death of Professor Paine, who had retired at the end of the preceding year.

ADMINISTRATIVE WORK OF THE FACULTY.

In my last Report, I expressed the belief that the chief need of the Faculty was a large simplicity. Toward such a simplicity it is slowly moving. It is reducing the membership of committees when reduction is practicable, and it seems inclined to give committees and chairmen more power. The importance of such a policy is the greater because the fresh enterprises in which the Faculty is constantly engaged and the increasing personal attention to individual students (for example, to candidates for the degree of A.M.) tend to make heavier the administrative work of individual teachers. This work may be the best work a teacher does, may give him his strongest hold on the young men and a warm place in their memories; may even add to his efficiency in a limited amount of teaching, through his clearer vision of the minds and characters of the taught: yet it must reduce his teaching in quantity, and may, by exhausting him, reduce it in quality; and it is an inveterate foe to scholarship. For these reasons it would seem wise that the real scholars in the Faculty should undertake only so much administrative work as they may need to keep them human.

L. B. R. BRIGGS, *Dean.*

THE COLLEGE.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—I have the honor to submit to you a report on the condition of Harvard College for the academic year 1905–06.

The total number of students at the time when the lists were compiled for the Catalogue of 1905–06 was eighteen hundred and ninety-nine, divided as follows:—

Seniors	242
Juniors	417
Sophomores	601
Freshmen	488
Total number of Undergraduates	1748
Special Students	151
Total	1899

These figures, compared with those for the corresponding time in 1904–05, show a net loss of one hundred and ten, divided as follows:—

	Gain.	Loss.
Seniors		23
Juniors		25
Sophomores		9
Freshmen		57
Special Students	4	..
		114
		4
Net loss		110

Last year I called attention to the almost steady decrease for the preceding five years in the number of students registered in the Senior Class. This decrease still continues:—

	1900–01.	1901–02.	1902–03.	1903–04.	1904–05.	1905–06.
In College	1992	1983	2109	2073	2009	1899
Seniors	388	346	381	325	265	242

During the year the following students died:—

Timothy Thomas Crowley, '07 (not in College in 1905–06), Sept. 1, 1906.
 Roger Ferguson Conant, '09, . . . December 26, 1905.
 Everett Newell Smith, '09, . . . March 15, 1906.

Three hundred and eighty-three students—twenty-two in March and three hundred and sixty-one in June—were recommended by

the Faculty of Arts and Sciences for the degree of Bachelor of Arts in course. Of these, two hundred and eleven were registered in the Senior Class. The registration of the others is indicated in the next table:—

On leave of absence all the year	81
On leave of absence first half-year	0
On leave of absence second half-year	17
Graduate Students	28
Registered in Law School	20
Registered in Medical School	9
Registered in Scientific School	9
Special Students	1
Registered in Sophomore Class	14
Registered in Junior Class	18
	<u>147</u>
To be designated "as of 1907" in the <i>Quinquennial</i>	25
	<u>172</u>

The next tables show the losses and gains in the three younger classes between November, 1905, and November, 1906. It is to be observed that the great decrease in the net loss in these three classes (two hundred and two less than the corresponding loss last year), as well as the increase in the number of Special Students, and the increased registration of students in regular standing in Harvard College for the academic year 1906-07 (to be shown in the next annual report of the Dean) are due in large part to the transfer to Harvard College of students formerly registered in the Scientific School, to the registration in Harvard College of those incoming candidates for the degree of Bachelor of Science who formerly would have entered the Scientific School, and to the placing of all Special Students in charge of Harvard College:—

	November, 1905.	Loss.	Gain.	November, 1906.
Class of 1907 . .	(Juniors) 421	169	80	(Seniors) 332
Class of 1908 . .	(Sophomores) 599	257	74	(Juniors) 416
Class of 1909 . .	(Freshmen) 488	105	252	(Sophomores) 635
		531	406	

Net loss in the three classes between Nov., 1905, and Nov., 1906, 125
(202 less than in 1905).

(The discrepancy between the numbers of students in the classes as given in this table and the numbers as given in the Catalogues of the corresponding years is caused by students entering or withdrawing after the Catalogue goes to press.)

	Class of 1907.	Class of 1908.	Class of 1909.	Total for three classes.
LOSSES.				
Left College before the end of the year . .	7	24	30	61
Left College at the end of the year	143	80	11	184
Were "dropped" and left College	5	32	12	49
Entered a lower class	10	122	37	169
Entered a higher class	4	49	15	68
Total loss	169	257	105	531
GAINS.				
From higher classes	2	15	124	141
From lower classes	47	15	..	62
Newly admitted	31	44	128	203
Total gain	80	74	252	406
Net loss	89	183	..	125
Net gain . . . . .	..	..	147	..

The next table shows the losses and gains in the number of Special Students since December, 1905 : —

In attendance, December, 1905	151
Left College before the end of the year	28
Left College at the end of the year	51
Entered a College class	21
Total loss	100
Reentered College as Special Students in 1906	51
Newly admitted	218
Total	264
Net gain	113

The Freshman Class in 1906-07 numbers six hundred and five, an increase of one hundred and seventeen over the class of the preceding year : —

Admitted by examination in 1906	492
Admitted by examination before 1906	60
From a higher class	37
" the Special Students	2
" the Lawrence Scientific School	14
Total	605

The past year is notable for the inauguration of important and far-reaching changes in methods of administration as well as for the trial of other important changes determined upon in preceding years.

The first of the changes to which I allude is the appointment of a Committee on Admission, consisting of five members, which now performs in a far more satisfactory and effective manner than has ever been done before work which heretofore has engaged no less than five committees, involving a total membership of forty-eight. To this Committee has been entrusted all questions of admission to undergraduate standing: the burden upon each member of the Committee is heavy, but the results warrant the devotion. In reality much time is saved not only for the members of the former committees but for many of the candidates for admission. A candidate, if he is to be admitted at all, is admitted at once to the place where he belongs, and the University is no longer in the undignified and embarrassing position of having candidates, supported always by voluminous testimonials to their virtues and accomplishments and not infrequently by half-reluctant teachers and wholly ardent and protesting parents, attack first one and then another of its committees. He has been indeed a poor-spirited youth who could not by sufficient beating at all five of the doors at last secure admission at one. Hereafter administrative officers will no longer see—at least, under the jurisdiction of the Faculty of Arts and Sciences—in the class room and on the athletic fields, the smiling faces of youths who have been firmly told to return to the preparatory schools whence they came.

The important alterations in the methods of admission to Harvard College, the first of which was adopted by the Faculty on recommendation of the Committee on Admission Examinations, are discussed in the report of the Chairman of the Committee on Admission; and there will be found various tables corresponding in part to the tables which heretofore have appeared in this report. These new tables, however, are not comparable with the old, since the bases on which they are computed cannot, on account of the changes in the methods of admission, be the same.

The second and most important change,—one of the most important changes in the recent history of Harvard College,—is the establishment of the degree of Bachelor of Science without distinction of field, side by side with that of Bachelor of Arts. For the present, as the terms for the new degree have been announced, the sole difference between the two degrees is in the requirements for

admission to College. In minor details the requirements for admission to candidacy for the degree of Bachelor of Science differ from those for admission to candidacy for the degree of Bachelor of Arts by the requirement for the former of both Elementary French and Elementary German (or, as a substitute for either, Advanced German or Advanced French), and of solid geometry; by a wider election in science (astronomy, counted for the A. B. candidate as an advanced elective subject only, and zoölogy and botany, not counted at all, may be used to satisfy the requirement in prescribed science); and by a larger list of elective subjects (civil government, economics, drawing and shopwork of various kinds) from which to secure the remaining number of points required. The great point of difference is that the passing of an examination in Elementary Latin or Elementary Greek is for the candidate for the S.B. elective. This difference is in the work done before entrance to College: once in, two students may pursue the same course, and emerge, one a Bachelor of Arts, the other a Bachelor of Science, the sole difference in their training being that for one was prescribed before he entered a small knowledge of either Latin or Greek (in practice this is really Latin), for the other a knowledge of solid geometry, both of which subjects they are not unlikely to have forgotten.

One great and beneficent result of the establishment of this new kind of S.B. is clear: Harvard College has been brought into close relation with the public schools of the United States; it has been made accessible practically to all boys trained in them. Any graduate of a good high school, it matters not whether it be English or classical, or whether he has or has not "taken the college course," may now, as a regular member of the College, secure all its advantages, including recognition as an alumnus. Whatever may be one's opinion in regard to the value of a classical training, one cannot but rejoice at this liberal extension of the service of the College.

What will be the future of the new degree time alone can tell. Under the present terms the only science in it (as Professor Wendell has said) may be the letter "S"; and, although there is precedent for this, objection to such a use may be justly urged. Theoretically, those who argue that different kinds of training should be implied by the two degrees can make a case of some strength; but in practice, especially as the degree of Bachelor of Arts has been administered at Harvard, to discriminate between the two is a hopeless task. The tendency of modern study, also, seems against such a discrimination. To-day, language, literature, history, economics, all of "the humanities," are subjects of "scientific investigation": it

is impossible clearly to draw a line between arts and sciences. Furthermore, for nearly twenty years at Harvard College the degree of Bachelor of Arts has stood for training of the most varied sorts, — in many cases, for a course more highly specialized in science than that laid down in any one of the prescribed programmes of the Scientific School. No one of the holders of the degree of Bachelor of Arts to whom I have just referred would for a moment, I believe, consider favorably the exchange of that degree for the new degree of Bachelor of Science. Prediction is uncertain; but if talks with a few students give any indication of the fate of the new degree, it runs for a time, — certainly until it shall have a large body of holders, — a most excellent chance of becoming a “consolation degree” for men who cannot pass the admission examination in Elementary Latin. I have yet to hear the new degree preferred to the degree in Arts.

From a consideration of all the questions involved, it seems pertinent to ask if the time has not come for a more flexible system of admission to candidacy for the degree of Bachelor of Arts, in which the offering of Elementary Latin or Elementary Greek shall not be prescribed. The study of Greek in the schools, if we are to judge from our own examinations, is declining; each year not merely the percentage but the actual number of candidates presenting themselves for examination in this subject is decreasing. Latin, on the other hand, is reported to be one of the two most flourishing and prosperous subjects in secondary schools; it can, therefore, be trusted to hold its own as an elective. Were this change made, the degree of Bachelor of Arts could, with very little, perhaps without any, broadening of its scope, be used as the seal for all regular undergraduate work, and the whole undergraduate body, for official and administrative purposes, be united, as the various parts long ago united themselves for all undergraduate, class, and social purposes, in the College. Thus the Scientific School could be left free for its great task of developing the new School of Applied Science.

The Administrative Board for the year 1905–06 was made up of Professors Willson, Parker, Gardiner, Ward, Gulick; Messrs. Hart and Lyman; the Assistant Dean and the Dean. It numbered six less than did the Board of the preceding year. This reduction, made possible by the amendment, in 1904, of the Statute which up to that time had prescribed for Harvard College alone of all the departments of the University the size of the Administrative Board (“not less than fifteen members”), resulted in a more effective,

consistent, and economical dispatch of business. In the preceding Boards, each numbering fifteen or more, there were so many to share responsibility, — it seemed so unnecessary that each member should attend every meeting, — that familiarity with the details of business and individual cases was really left to a few, and justice was sometimes in danger, as well as consistency of action. The smaller Board saved absolutely the time of six members, relieved from service, as well as some of the time of those who still served: regularity in attendance, imposed by the very smallness of the Board, obviated the necessity of the repetition of details and of arguments. For the year 1906–07 a Board of seven, probably the best number, since it secures adequate representation of administrative and advisory officers, has been appointed. The Board held thirty-five meetings.

During the course of the year one student was dismissed for lying; three were suspended, two for handing in as their own written work copied from others, and one for taking an unauthorized vacation; twenty-one on probation had their probation closed, one for indecent and disorderly conduct, two for copying, and eighteen for unsatisfactory records in attendance and studies; nine withdrew under pressure. Of the twenty-seven last enumerated, nine, at some preceding time, had had their connection with the College severed, and at the beginning of a subsequent year been readmitted: of the remaining eighteen, five had been dropped from higher classes. At the end of the year the new provision of the rule concerning probation, that the probation of a student whose final record does not warrant relief from probation, shall be closed, went into effect. Five Juniors, twenty-five Sophomores, and twenty-five Freshmen, who had been put on probation at various times through the year, failed to attain satisfactory records: of these one Junior and seven Sophomores were advised not to seek readmission. The others were encouraged to work during the summer, — either to prepare themselves to remove admission conditions, or to secure employment in business of some sort, — and to apply for readmission in September. Those who presented satisfactory evidence of some sort of vigorous summer work that led the Board to expect that they would do well if given another chance were readmitted. The Board has steadily held to a policy of leniency in readmitting at the beginning of the year students who, having been sent away during the course of the year, could bring a record of good work done elsewhere between the time when they left College and that when they sought readmission. In some cases

the results have been gratifying; in far too many, however, they have been unsatisfactory. The return to former associations has brought a return to old habits, and has proved too strong for the good resolutions made at the beginning of the year. Of seventeen students thus readmitted at the beginning of the year 1905-06, one, on advice, decided not to come; nine, falling into old habits, disappeared, either under advice or by the action of the Board,—seven before the end of the year, two at the end.

The appointment of an Assistant Dean has been of the greatest service in strengthening administration. For many years, the mere number of students has made it impossible for the Dean to see personally every student under his jurisdiction. He could talk with those summoned to him because of unsatisfactory records, and those who sought him of their own volition. As two of those who have held the office of Dean have been members of the Department of English they have been able to meet the greater part of the Freshman Class in the prescribed course in English, and thus to discuss matters of administration, but to have a personal interview with each newly admitted student was out of the question; in the twenty-four hours of the day there was not time enough for this and the other work of the office. Now, however, the Assistant Dean, by taking charge of the Freshman Class only, is able to talk individually at the beginning of the year with each member, and by counsel and advice to supplement the work of the advisers in this, in some ways the most important year, when the schoolboy changes to the "college man," and should learn the responsibility of freedom.

In my report of 1904 I called attention to the great number of excuses of sickness presented to the Recorder to account for absences from College engagements. At the end of the year 1904-05 the Faculty amended the regulations, and the question of excuses for sickness was placed where it belonged,—in the hands of the Medical Visitor. "A student who is sick," the new rule reads, "should at once notify the Medical Visitor, who, in case of serious illness, will inform the Recorder." The Recorder marks as excused, in the record-books, all absences which the Medical Visitor informs him should be excused, and notifies the instructors of the students concerned. In 1904-05, when the students in College numbered 2,009, the Recorder's office received 2,765 written excuses of sickness, divided as follows: Seniors, 337; Juniors, 629; Sophomores, 830; Freshmen, 827; Special Students, 142. For the year 1905-06, when the students numbered 1899, the Medical Visitor reports 1146 such

cases, divided as follows: Seniors, 122; Juniors, 246; Sophomores, 409; Freshmen, 299; Special Students, 70. The percentage of sickness has decreased in a single year from 137 to 60: this great improvement in the general health of the undergraduates is most gratifying.

The number of students winning a position in the first group of scholarship holders in the year 1906-07 is forty-eight as compared with forty-seven in 1905-06. Of these, forty-one hold stipendiary scholarships, seven hold honorary. In the second group, seventy hold stipendiary, eighty-one honorary. A study of the scholarship lists and the records of the scholarship holders for the last three years suggests the conclusion that the report of the Committee on Improving Instruction has led to an increased strictness in grading. The number of holders of scholarships with stipend in the first group shows no diminution, but the number of holders of honorary scholarships has steadily declined. This would naturally be the case with a severer system of marking. The holder of a scholarship with stipend must win his scholarship, and accordingly he increases his amount of work. The holder of an honorary scholarship, on the other hand, has not this incentive: he works at the old rate. In the second group the number of holders of honorary scholarships exceeds the number of holders of scholarships with stipend, but the standard for admission to this group, determined, of course, by the number of scholarships with stipend to be assigned, has been lowered. For the last two years an average rank of one A and three B's has, for Sophomores and Juniors, won a position in this group. Before that time the average required was two A's and two B's.

In my last report were printed the requirements for the new degree with distinction and the rules governing the "Dean's List." It is gratifying to report that the new plan bears good fruit. In 1906, although short notice of the details of the new plan had been given and the old plan was still in existence, eleven candidates received the degree with distinction under the new plan, six *cum laude*, five *magna cum laude*. During the year only one student abused the privileges of the "Dean's List," and had his name stricken off. One hundred and twenty-two students are now registered at the Dean's office as candidates for the degree. The new plan, by its insistence on unity and its encouragement to wide reading, gives promise of doing away with a defect apparent heretofore in the work of some scholars of high standing whose minute knowledge of certain portions of a field has not atoned for their lack

of information concerning great stretches of the same field, and of enabling students to approach more nearly than have many of our scholars heretofore to what Professor Lowell has so well defined as the ideal of the modern Harvard education,—mastery, so far as that may be implied in a degree of Bachelor of Arts, in some one field of learning, and such an understanding of other fields as will enable one to listen intelligently to those who are masters in those fields.

B. S. HURLBUT, *Dean*.

THE LAWRENCE SCIENTIFIC SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—I have the honor to submit to you the following report on the Lawrence Scientific School for the academic year 1905–06.

The number of students registered in the School during this and the immediately preceding year, and their distribution in classes, as well as in programmes of study, are set forth in the following tables:—

REGISTRATION BY CLASSES.

Class.	1904-05.	1905-06.
Fifth-Year	1	6
Fourth-Year	96	66
Third-Year	67	73
Second-Year	140	184
First-Year	104	91
Specials	137	138
Totals	<u>545</u>	<u>508</u>

SPECIAL STUDENTS.

Number of years in attendance.	1904-05.	1905-06.
One	79	88
Two	33	33
Three	18	10
Four	8	4
Five . . . . .	..	3
Totals	<u>128</u>	<u>138</u>

DISTRIBUTION OF STUDENTS IN FOUR-YEAR PROGRAMMES.

Programme.	1904-05.	1905-06.
Civil Engineering	66	56
Mechanical Engineering	62	65
Electrical Engineering	80	85
Mining and Metallurgy	66	67
Metallurgical Engineering	1	..
Architecture	44	48
Landscape Architecture	16	17
Forestry	9	15
Chemistry	28	29
Geology	6	8
Biology	11	5
Anatomy and Physiology	28	24
For Teachers of Science	24	23
General Science	109	66
Totals	<u>545</u>	<u>508</u>

It is to be observed that while there was a diminution of thirty-seven in the total registration in the School this loss was almost entirely in the number enrolled in the programme of General Science. In the previous year there was a loss of eighteen, which also was to be accounted for by the loss in the programme of General Science. As Professor Shaler pointed out in his last annual report, this was to be expected in view of the increase in the entrance requirements of the Lawrence Scientific School. The decrease is also coincident with an increased severity in the administration of this programme by the Committee having it in charge. The programmes of the School leading to more or less professional degrees have, on the whole, made a slight gain.

This year marked the culmination of the remarkable growth of the Lawrence Scientific School under the administration of Professor Shaler. Therefore it may be not out of place to present here in tabular form a record showing the extent and nature of this numerical growth. The table is given below. Throughout the table the Special Students are distributed, at times somewhat arbitrarily, among the several programmes, this being the form customarily pursued. For the year 1891-92 this was not done. There exist

	1891-92.	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
Civil Engineering .		40	57	44	41	32	44	53	53	62	56	72	72	68	55
Mechan. Engineering			8	27	41	70	70	66	61	64	82	70	56	57	66
Elect. Engineering .		31	56	63	65	44	47	40	45	42	49	61	74	84	83
Min. and Metall. . .				6	7	13	17	19	30	42	67	75	68	67	68
Architecture				30	45	45	54	39	36	26	29	35	40	44	46
Landscape Architect.										11	9	11	16	15	17
Forestry													7	8	13
Chemistry		8	17	10	17	17	20	24	19	21	32	32	23	24	29
Geology		26	25	20	20	31	25	16	7	6	5	3	4	5	8
Biology		13	20	16	14	16	13	8	5	10	12	16	14	11	5
Anat. and Physiology		14	27	25	27	27	36	36	42	31	30	38	35	26	24
For Teachers of Sci.				8	8	12	11	8	16	22	21	30	13	23	24
General Science . .		50	70	59	55	61	78	106	181	170	157	141	126	98	66
Totals . . .	118	181	280	308	340	368	410	415	495	507	549	584	548	530	504

The figures in this table give the registration each year at the time of issue of the Catalogue. The figures given in the table at the beginning of the report are corrected for the year.

no data on which to base such a classification of about 30% of the Special Students of that year. Therefore, for the year 1891-92 only the total number of students is given.

The total enrolment of the School increased under Professor Shaler's administration from 118 to 504, with a maximum of 584. The increase in the number of programmes in the School is equally interesting. There were originally seven programmes. This number was increased to thirteen by the addition in the order named of programmes in Mechanical Engineering, Mining and Metallurgy, Architecture, For Teachers of Science, Landscape Architecture, and Forestry, some of which were revivals of earlier programmes little more than embryonic in character. The total number of students enrolled in the School rose to a maximum in 1902-03, with an attendance of 584. During the three succeeding years there was a falling off, which, however, was more than accounted for by a diminution in the students enrolled in the programme of General Science. That the number so enrolled should diminish has already been explained. If, however, the number of students in General Science is subtracted from the total enrolment, there remains an almost steady growth in the School. There has been a general impression that the number of Special Students in the School has been large. Bearing on this it is interesting to observe that the number of Special Students plays a far from important rôle in the growth of the School. In the first year of Professor Shaler's administration, the Special Students formed 60% of the total enrolment of the School, while in the last year the percentage of Special Students had fallen to less than 28% of the total number. The percentage of Special Students almost steadily decreased from the beginning to the end of the period.

It is not possible to show in so simple a form the improvement in quality. Nevertheless, it is the opinion of practically everyone who is in contact with the students that the work has greatly improved in quality in recent years; that, with the exception, of course, of the Special Students, the initial attainment and earnestness of endeavor have steadily improved, and now are in no way inferior to that of the larger undergraduate department — the College. The Scientific School lost by the death of Professor Shaler the guidance that had led it through increased membership and through improved scholarship to a most dignified position in the University. Against the disintegrating effects of competition of almost equal technical opportunities in the College, his personality was the principal cohesive force in the Scientific School.

In March of the academic year 1905-06, the President and Fellows, and the Board of Overseers, on recommendation of the Faculty of Arts and Sciences, voted concurrently to adopt the following plan for the administration of the degree of Bachelor of Science and higher degrees in applied science and for the reorganization of the Lawrence Scientific School: —

1. A degree of Bachelor of Science is established in Harvard College, the requirements for admission of students intending to become candidates for this degree to be the same as the present requirements for admission to the Lawrence Scientific School, and the requirements for graduation to be the same as the requirements for the degree of Bachelor of Arts in respect to the number of courses required, the grade of work demanded, and the length of residence. The new degree of Bachelor of Science, like the degree of Bachelor of Arts, will be given *without* designation of any field of study.

2. A Graduate School of Applied Science is established in Harvard University. The subjects in which degrees will be granted in this Graduate School will be for the present Engineering (Mechanical, Electrical, and Civil), Mining and Metallurgy, Architecture, Landscape Architecture, Forestry, Applied Chemistry, Applied Biology, and Applied Geology. A Bachelor's degree in arts or science, or its equivalent, will be required for admission to this School.

3. The present degree of Bachelor of Science *with* designation of the field of study, on completion of any one of the present four-year programmes of the Lawrence Scientific School (namely, Civil and Topographical Engineering, Mechanical Engineering, Electrical Engineering, Mining and Metallurgy, Architecture, Landscape Architecture, Forestry, Chemistry, Geology, Biology, Anatomy and Physiology, For Teachers of Science, and General Science), will be maintained as long as it shall seem best.

4. The new organization of the instruction in Applied Science will provide in Harvard College and the Graduate School of Applied Science, jointly, five years of instruction in the several fields of study in Applied Science.

5. The arrangements above described will take effect beginning with the academic year 1906-07.

In June the Corporation voted to add Physics to the list of studies in which degrees will be granted in the Graduate School of Applied Science.

The two most important aspects of this reorganization are the establishing in Harvard College of the degree of Bachelor of Science and the organization of the work in applied science as a Graduate School on a level with the other professional schools of the University, the Schools of Law, Medicine, and Divinity.

Professor Nathaniel Southgate Shaler, Dean of the Lawrence Scientific School from 1891, died on the 10th of April, 1906. During his long deanship, the longest in the history of the University, he not only developed the School as an important factor in the University, but, by his strong personality, gave to the School and his office as Dean a prominence, both in the University and before the public at large, out of proportion to the numerical strength of the School.

WALLACE C. SABINE, *Dean*.

ATHLETIC SPORTS.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—I have the honor of submitting to you a report for the academic year 1905–06 on the work of the Committee on the Regulation of Athletic Sports.

The principal functions of the Committee are the supervision of the grounds, buildings, and equipment; the control of the finances; the approval of appointments; the regulation of athletic contests at home and elsewhere; and the administration of its rules.

The general care of the grounds and buildings, excepting the Gymnasium, devoted by the University to athletic sports and exercise, was left to the Committee at an early date; and by vote of the Corporation (Oct. 10, 1892) the Soldier's Field was also placed in charge of the Committee.

I. EQUIPMENT.

During the past year the following changes and improvements in the athletic plant have been made. Five new courts were laid out on Jarvis Field, the expense of which was borne by Mr. D. L. Pickman, of the Class of 1873. These new courts have partly made good the loss of courts on Holmes Field occasioned by the erection of the new Law School building. It is probable that the latter field will ultimately not be available for tennis, so that the problem of additional space for tennis courts will soon become pressing. When Soldier's Field has been entirely reclaimed it should accommodate a large number of tennis courts. Even at present there would be space along the north fence between the Newell Gate and the gate opposite the University boat-house for a single row of seventeen courts without inconveniencing other sports. With a little additional grading, a double row of thirty-four courts could be laid out not far from the same fence.

The improvements in the University boat-house have made it a more attractive building, and a new Weld boat-house is in process of construction. The old boat-house was purchased for about \$20,000 by the City of Cambridge, when the parkway was laid out and the boat-house site taken by the city; and a rental of \$500 per annum has been paid to the city for the use of the building. By careful investments the Trustees of the Weld Boat-House Fund have increased

the capital to about \$30,000. The late George W. Weld, of the Class of 1860, had intended to erect a new structure, and his family, in recognition of this intention, has recently given the sum of \$100,000 for the purpose. The new boat-house will have two and one-half stories, and will be constructed of brick, concrete, and steel, with a red tiled roof. The floors will be granolithic, and little wood is to be used about the building. There are to be a repair shop, offices, locker rooms, bath and rubbing rooms, and a club room. The latest improvements will be utilized for run-ways, exits, and floats. Two balconies will give good views of the river. The dimensions of the building are 158 feet by 78 feet. It will stand on the site of the old boat-house, which has been moved down stream, and will be used temporarily by the Weld crews. A lease of ninety-nine years for the new boat-house at the previous rental has been secured from the City of Cambridge. The completion of the various details made necessary by reason of this gift has been accomplished by the good offices of Mr. William S. Youngman, of the Class of 1895. This liberal gift will greatly enlarge the opportunity for participation in rowing by increased numbers of students. The gift is peculiarly timely, as the erection of the new dam, creating a permanent stretch of high water for about eight miles, will greatly stimulate the use of the river. It is possible, however, that the increased traffic for pleasure and business may render shell rowing less free from inevitable interference.

Work on the drainage of Soldier's Field has been continued, and a series of catch basins has been placed around the western and northern boundaries. A uniform system of tiled ditches has been initiated, and the drainage of the lower part of the western side has been completed. This piece has been partly filled, and a driveway round the entire field just inside the fence, to be lined with trees, is under way.

The sanitary facilities at the Stadium have been somewhat increased, and the Gate Lodge has been made more convenient as a waiting-room for women. During the present summer the locker building and the base-ball cage have been repainted, and the steel work of the Stadium has received one coat of paint.

The use of the Stadium has been enlarged by the successful performance of a Greek play; and the exercises held there on Class Day have continued to be a notable and successful feature of that occasion.

The spectators' seats for base-ball remain unsatisfactory and inadequate, although the permanent steel framework has diminished

the danger from fire, except at the great games, at which additional bleachers made entirely of wood must be erected. The stands are patrolled by policemen, and two or three small fires during the season were quickly put out by the use of Babcock extinguishers. At the large games a fire engine is also in attendance. A permanent and fireproof grand stand of concrete or brick and steel is much needed.

II. FINANCES.

The cost of the Stadium to date has been \$309,210.45. This sum includes a land purchase for \$12,000, of which \$5,742.96 was given by Major H. L. Higginson. The Class of 1879 gave \$100,000; and the Athletic Committee has turned in sums amounting to about \$160,000. By January 1, 1907, the debt on the Stadium, with interest, will amount to about \$50,000. This total may be somewhat reduced at that time by additional payments from the accumulations of the fall season.

The tables which follow, compiled from the published reports, show the expansion of athletics, which keeps pace with the expansion of the University and the expansion of the national life.

The detailed figures for 1894-96 were not available. The falling off in subscriptions accompanies an increase in the surplus. Attention is called to the growth of the budgets of the minor sports. A progressive increase in training table expenses and in supplies may be traced in the detailed reports of the Graduate Treasurer which are annually published.

The expenditures in general reveal an unnecessary extravagance which no surplus, however large, can justify. That a successful season in sport does not depend upon lavish outlay has been repeatedly proven by the budgets of a number of other institutions. It cannot be maintained that the Harvard funds have been misappropriated, but they have been administered without due economy. The responsibility for this situation must be divided and may be charged in part to the system. Repeated changes in the office of Graduate Treasurer as well as in the undergraduate managerial positions render it difficult to utilize suitably the experience of the various incumbents from season to season. Few graduate coaches are anxiously concerned about limiting the team's expenses; and the undergraduate manager, who is often unfairly charged with parsimony, is not infrequently impaled on either horn of a dilemma, in the difficult search for a happy medium between a penny-wise and pound-foolish policy.

HARVARD ATHLETIC ACCOUNTS.—EXPENSES

	1899-90	1900-91	1891-92	1893-94	1894-95	1895-96	1896-97	1897-98	1898-99	1899-00	1900-01	1901-02	1902-03	1903-04	1904-05
Freshman Foot-Ball	9727.90	81,308.83	91,167.20	83,000.95	91,226.37	91,144.09	9284.69	8907.83	92,010.99	92,641.36	91,791.90	91,192.97	91,377.96	9390.88	91,379.86
Freshman Base-Ball	666.21	848.12	1,432.25	1,323.81	1,050.62	965.16	1,101.44	1,012.57	904.15	1,299.24	1,214.11	872.61	909.95	861.84	1,211.29
Freshman Crew	2,069.43	2,944.35	2,979.42	2,998.84	2,148.98	2,149.24	2,274.88	3,979.48	2,998.06	3,998.05	2,110.27	2,186.08	3,966.79	3,009.46	2,981.57
Athletic Association, Track Team	2,508.44	3,446.27	5,005.79	4,612.54	4,741.12	3,296.89	3,594.69	4,264.72	4,472.71	4,946.47	3,676.61	6,326.65	7,790.41	6,592.25	6,623.46
Cycling Association	877.02	831.21	321.81	611.94			675.65	622.66							
Foot-Ball Association	9,060.10	8,951.88	11,487.50	16,258.86	18,076.25	15,167.11	11,808.46	11,322.80	10,856.92	10,239.74	15,335.63	19,688.16	16,446.10	15,281.74	17,434.78
Base-Ball Association	7,928.69	6,546.68	18,940.26	13,477.20	10,980.94	7,964.62	7,913.98	7,729.62	13,207.46	10,677.77	10,492.09	10,566.58	10,684.46	12,687.69	11,664.86
Lawn Tennis Association	607.51	955.83	1,010.27	447.89	819.47	2,211.21	998.46	1,100.80	996.04	1,000.74	874.86	1,160.97	1,686.70	281.28	179.79
Golfing Club	662.23	2,235.60	1,824.15	1,878.04											
Crickets Club	566.57	324.10	580.11	886.45	430.98		299.85		160.00	141.10	283.96	440.60	198.19	479.29	481.46
Boat Club	6,953.20	6,824.02	7,401.31	8,078.14	7,568.65	10,180.97	8,265.66	7,932.09	8,197.73	10,330.08	6,672.51	6,894.66	7,097.83	9,637.27	10,147.97
Lacrosse Association								391.89		687.07	900.21	212.65	878.66	1,109.97	1,205.87
Second Nine, College Nine								1,153.37	917.46	111.28	279.09	271.50	272.08	820.99	847.41
Weld Boat Club											1,764.76	2,315.43	4,129.00	2,422.74	2,729.92
Newell Boat Club											1,374.71	2,428.51	2,796.84	2,503.89	2,800.29
Skating Rink										76.78	122.87				
Freshman Basket-Ball											87.76			180.86	137.66
Basket-Ball Team											282.10		749.24	818.63	1,092.56
Hockey Club												448.96	744.71	1,210.99	1,465.14
Fencing Team												279.27	869.37	644.11	98.00
Lawn Tennis Courts												1,499.37	1,499.37	1,499.37	1,791.97
Gymnastic Team														182.08	84.00
Freshman Hockey														181.06	46.86
Jed Jiten															167.60
Hand-Ball															92.64
Second Basket-Ball															66.89
Association Foot-Ball															45.64
	22,040.90	84,178.89	92,088.17	97,792.90	47,869.37	43,944.29	84,701.66	81,968.78	40,926.44	43,373.02	43,847.79	54,967.71	54,094.50	61,289.86	68,487.13

HARVARD ATHLETIC ACCOUNTS. — RECEIPTS

	1900-01	1901-02	1902-03	1903-04	1904-05	1905-06	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18	1918-19	1919-20	1920-21	1921-22	1922-23	1923-24	1924-25	1925-26	1926-27	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2035-36	2036-37	2037-38	2038-39	2039-40	2040-41	2041-42	2042-43	2043-44	2044-45	2045-46	2046-47	2047-48	2048-49	2049-50	2050-51	2051-52	2052-53	2053-54	2054-55	2055-56	2056-57	2057-58	2058-59	2059-60	2060-61	2061-62	2062-63	2063-64	2064-65	2065-66	2066-67	2067-68	2068-69	2069-70	2070-71	2071-72	2072-73	2073-74	2074-75	2075-76	2076-77	2077-78	2078-79	2079-80	2080-81	2081-82	2082-83	2083-84	2084-85	2085-86	2086-87	2087-88	2088-89	2089-90	2090-91	2091-92	2092-93	2093-94	2094-95	2095-96	2096-97	2097-98	2098-99	2099-00	2100-01	2101-02	2102-03	2103-04	2104-05	2105-06	2106-07	2107-08	2108-09	2109-10	2110-11	2111-12	2112-13	2113-14	2114-15	2115-16	2116-17	2117-18	2118-19	2119-20	2120-21	2121-22	2122-23	2123-24	2124-25	2125-26	2126-27	2127-28	2128-29	2129-30	2130-31	2131-32	2132-33	2133-34	2134-35	2135-36	2136-37	2137-38	2138-39	2139-40	2140-41	2141-42	2142-43	2143-44	2144-45	2145-46	2146-47	2147-48	2148-49	2149-50	2150-51	2151-52	2152-53	2153-54	2154-55	2155-56	2156-57	2157-58	2158-59	2159-60	2160-61	2161-62	2162-63	2163-64	2164-65	2165-66	2166-67	2167-68	2168-69	2169-70	2170-71	2171-72	2172-73	2173-74	2174-75	2175-76	2176-77	2177-78	2178-79	2179-80	2180-81	2181-82	2182-83	2183-84	2184-85	2185-86	2186-87	2187-88	2188-89	2189-90	2190-91	2191-92	2192-93	2193-94	2194-95	2195-96	2196-97	2197-98	2198-99	2199-00	2200-01	2201-02	2202-03	2203-04	2204-05	2205-06	2206-07	2207-08	2208-09	2209-10	2210-11	2211-12	2212-13	2213-14	2214-15	2215-16	2216-17	2217-18	2218-19	2219-20	2220-21	2221-22	2222-23	2223-24	2224-25	2225-26	2226-27	2227-28	2228-29	2229-30	2230-31	2231-32	2232-33	2233-34	2234-35	2235-36	2236-37	2237-38	2238-39	2239-40	2240-41	2241-42	2242-43	2243-44	2244-45	2245-46	2246-47	2247-48	2248-49	2249-50	2250-51	2251-52	2252-53	2253-54	2254-55	2255-56	2256-57	2257-58	2258-59	2259-60	2260-61	2261-62	2262-63	2263-64	2264-65	2265-66	2266-67	2267-68	2268-69	2269-70	2270-71	2271-72	2272-73	2273-74	2274-75	2275-76	2276-77	2277-78	2278-79	2279-80	2280-81	2281-82	2282-83	2283-84	2284-85	2285-86	2286-87	2287-88	2288-89	2289-90	2290-91	2291-92	2292-93	2293-94	2294-95	2295-96	2296-97	2297-98	2298-99	2299-00	2300-01	2301-02	2302-03	2303-04	2304-05	2305-06	2306-07	2307-08	2308-09	2309-10	2310-11	2311-12	2312-13	2313-14	2314-15	2315-16	2316-17	2317-18	2318-19	2319-20	2320-21	2321-22	2322-23	2323-24	2324-25	2325-26	2326-27	2327-28	2328-29	2329-30	2330-31	2331-32	2332-33	2333-34	2334-35	2335-36	2336-37	2337-38	2338-39	2339-40	2340-41	2341-42	2342-43	2343-44	2344-45	2345-46	2346-47	2347-48	2348-49	2349-50	2350-51	2351-52	2352-53	2353-54	2354-55	2355-56	2356-57	2357-58	2358-59	2359-60	2360-61	2361-62	2362-63	2363-64	2364-65	2365-66	2366-67	2367-68	2368-69	2369-70	2370-71	2371-72	2372-73	2373-74	2374-75	2375-76	2376-77	2377-78	2378-79	2379-80	2380-81	2381-82	2382-83	2383-84	2384-85	2385-86	2386-87	2387-88	2388-89	2389-90	2390-91	2391-92	2392-93	2393-94	2394-95	2395-96	2396-97	2397-98	2398-99	2399-00	2400-01	2401-02	2402-03	2403-04	2404-05	2405-06	2406-07	2407-08	2408-09	2409-10	2410-11	2411-12	2412-13	2413-14	2414-15	2415-16	2416-17	2417-18	2418-19	2419-20	2420-21	2421-22	2422-23	2423-24	2424-25	2425-26	2426-27	2427-28	2428-29	2429-30	2430-31	2431-32	2432-33	2433-34	2434-35	2435-36	2436-37	2437-38	2438-39	2439-40	2440-41	2441-42	2442-43	2443-44	2444-45	2445-46	2446-47	2447-48	2448-49	2449-50	2450-51	2451-52	2452-53	2453-54	2454-55	2455-56	2456-57	2457-58	2458-59	2459-60	2460-61	2461-62	2462-63	2463-64	2464-65	2465-66	2466-67	2467-68	2468-69	2469-70	2470-71	2471-72	2472-73	2473-74	2474-75	2475-76	2476-77	2477-78	2478-79	2479-80	2480-81	2481-82	2482-83	2483-84	2484-85	2485-86	2486-87	2487-88	2488-89	2489-90	2490-91	2491-92	2492-93	2493-94	2494-95	2495-96	2496-97	2497-98	2498-99	2499-00	2500-01	2501-02	2502-03	2503-04	2504-05	2505-06	2506-07	2507-08	2508-09	2509-10	2510-11	2511-12	2512-13	2513-14	2514-15	2515-16	2516-17	2517-18	2518-19	2519-20	2520-21	2521-22	2522-23	2523-24	2524-25	2525-26	2526-27	2527-28	2528-29	2529-30	2530-31	2531-32	2532-33	2533-34	2534-35	2535-36	2536-37	2537-38	2538-39	2539-40	2540-41	2541-42	2542-43	2543-44	2544-45	2545-46	2546-47	2547-48	2548-49	2549-50	2550-51	2551-52	2552-53	2553-54	2554-55	2555-56	2556-57	2557-58	2558-59	2559-60	2560-61	2561-62	2562-63	2563-64	2564-65	2565-66	2566-67	2567-68	2568-69	2569-70	2570-71	2571-72	2572-73	2573-74	2574-75	2575-76	2576-77	2577-78	2578-79	2579-80	2580-81	2581-82	2582-83	2583-84	2584-85	2585-86	2586-87	2587-88	2588-89	2589-90	2590-91	2591-92	2592-93	2593-94	2594-95	2595-96	2596-97	2597-98	2598-99	2599-00	2600-01	2601-02	2602-03	2603-04	2604-05	2605-06	2606-07	2607-08	2608-09	2609-10	2610-11	2611-12	2612-13	2613-14	2614-15	2615-16	2616-17	2617-18	2618-19	2619-20	2620-21	2621-22	2622-23	2623-24	2624-25	2625-26	2626-27	2627-28	2628-29	2629-30	2630-31	2631-32	2632-33	2633-34	2634-35	2635-36	2636-37	2637-38	2638-39	2639-40	2640-41	2641-42	2642-43	2643-44	2644-45	2645-46	2646-47	2647-48	2648-49	2649-50	2650-51	2651-52	2652-53	2653-54	2654-55	2655-56	2656-57	2657-58	2658-59	2659-60	2660-61	2661-62	2662-63	2663-64	2664-65	2665-66	2666-67	2667-68	2668-69	2669-70	2670-71	2671-72	2672-73	2673-74	2674-75	2675-76	2676-77	2677-78	2678-79	2679-80	2680-81	2681-82	2682-83	2683-84	2684-85	2685-86	2686-87	2687-88	2688-89	2689-90	2690-91	2691-92	2692-93	2693-94	2694-95	2695-96	2696-97	2697-98	2698-99	2699-00	2700-01	2701-02	2702-03	2703-04	2704-05	2705-06	2706-07	2707-08	2708-09	2709-10	2710-11	2711-12	2712-13	2713-14	2714-15	2715-16	2716-17	2717-18	2718-19	2719-20	2720-21	2721-22	2722-23	2723-24	2724-25	2725-26	2726-27	2727-28	2728-29	2729-30	2730-31	2731-32	2732-33	2733-34	2734-35	2735-36	2736-37	2737-38	2738-39	2739-40	2740-41	2741-42	2742-43	2743-44	2744-45	2745-46	2746-47	2747-48	2748-49	2749-50	2750-51	2751-52	2752-53	2753-54	2754-55	2755-56	2756-57	2757-58	2758-59	2759-60	2760-61	2761-62	2762-63	2763-64	2764-65	2765-66	2766-67	2767-68	2768-69	2769-70	2770-71	2771-72	2772-73	2773-74	2774-75	2775-76	2776-77	2777-78	2778-79	2779-80	2780-81	2781-82	2782-83	2783-84	2784-85	2785-86	2786-87	2787-88	2788-89	2789-90	2790-91	2791-92	2792-93	2793-94	2794-95	2795-96	2796-97	2797-98	2798-99	2799-00	2800-01	2801-02	2802-03	2803-04	2804-05	2805-06	2806-07	2807-08	2808-09	2809-10	2810-11	2811-12	2812-13	2813-14	2814-15	2815-16	2816-17	2817-18	2818-19	2819-20	2820-21	2821-22	2822-23	2823-24	2824-25	2825-26	2826-27	2827-28	2828-29	2829-30	2830-31	2831-32	2832-33	2833-34	2834-35	2835-36	2836-37	2837-38	2838-39	2839-40	2840-41	2841-42	2842-43	2843-44	2844-45	2845-46	2846-47	2847-48	2848-49	2849-50	2850-51	2851-52	2852-53	2853-54	2854-55	2855-56	2856-57	2857-58	2858-59	2859-60	2860-61	2861-62	2862-63	2863-64	2864-65	2865-66	2866-67	2867-68	2868-69	2869-70	2870-71	2871-72	2872-73	2873-74	2874-75	2875-76	2876-77	2877-78	2878-79	2879-80	2880-81	2881-82	2882-83	2883-84	2884-85	2885-86	2886-87	2887-88	2888-89	2889-90	2890-91	2891-92	2892-93	2893-94	2894-95	2895-96	2896-97	2897-98	2898-99	2899-00	2900-01	2901-02	2902-03	2903-04	2904-05	2905-06	2906-07	2907-08	2908-09	2909-10	2910-11	2911-12	2912-13	2913-14	2914-15	2915-16	2916-17	2917-18	2918-19	2919-20	2920-2
--	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--------

HARVARD ATHLETIC ACCOUNTS.—TOTAL RECEIPTS AND EXPENSES

	1899-00	1900-01	1901-02	1902-03	1903-04	1904-05	1905-06	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18	1918-19	1919-20
Total Receipts	\$27,097.49	\$32,889.58	\$50,016.71	\$61,090.68	\$50,352.68	\$60,717.62	\$45,015.49	\$53,492.45	\$65,080.79	\$61,566.59	\$68,942.83	\$85,992.10	\$98,118.60	\$92,904.04	\$110,545.13	\$108,071.63					
Total Expenses	\$1,040.90	\$4,173.89	\$5,088.17	\$7,783.90	\$7,492.87	\$3,983.29	\$6,761.86	\$8,668.73	\$6,693.44	\$6,875.03	\$8,847.79	\$6,840.89	\$4,367.71	\$6,094.50	\$1,281.55	\$5,487.18					

HARVARD ATHLETIC ACCOUNTS.—TRAINING TABLES

	1899-00	1900-01	1901-02	1902-03	1903-04	1904-05	1905-06	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18	1918-19	1919-20
Freshman Foot-Ball	\$136.05	\$459.41	\$205.47	\$394.64	\$326.87			\$258.86	\$372.06	\$264.58	\$392.40	\$240.70	\$146.60	\$120.90	\$148.95	\$196.37					
Freshman Base-Ball					\$26.40			\$406.00	\$100.10	\$245.72	\$72.84	\$28.78	\$164.77	\$16.70	\$28.60	\$37.69					
Freshman Crew		\$78.00	\$602.40	\$22.00	\$608.30			\$781.90		\$50.50	\$164.98	\$177.39	\$148.10		\$16.49						
Athletic Association, Track Team	\$46.00	\$49.87	\$72.45	\$72.51	\$1,084.12			\$1,072.84	\$29.48	\$1,021.10	\$30.06	\$26.79	\$1,000.36	\$1,312.40	\$1,224.12	\$94.34					
Foot-Ball Association	\$59.44	\$1,581.40	\$1,912.09	\$2,305.60	\$2,156.37			\$1,682.67	\$2,378.83	\$1,934.81	\$2,108.64	\$2,489.76	\$2,966.96	\$2,883.71	\$2,474.89	\$1,101.08					
Base-Ball Association	\$762.90	\$460.00	\$1,808.84	\$1,087.58	\$2,061.62			\$1,392.65	\$1,498.73	\$1,544.66	\$1,618.53	\$1,022.00	\$1,317.16	\$1,440.29	\$2,026.81	\$1,832.26					
Boat Club	\$17.50	\$457.70	\$1,231.77	\$43.20	\$1,346.19			\$1,702.12	\$93.50	\$1,523.08	\$36.59	\$66.16	\$90.34	\$718.87	\$1,124.00	\$1,184.67					
Larabee Association												\$9.00	\$9.00	\$20.20	\$19.10	\$18.48					
W-44 Boat Club											\$161.71	\$170.56									
Naval Boat Club											\$100.07	\$92.87									
College Nine																				\$4.60	
Base-Ball Team																				\$101.90	
Hockey Club																				\$267.88	
	\$3,431.96	\$3,971.38	\$5,992.25	\$5,801.48	\$7,866.17			\$7,099.94	\$5,767.16	\$5,904.37	\$4,966.40	\$5,731.31	\$6,310.48	\$7,283.50	\$7,760.98	\$7,191.91					

HARVARD ATHLETIC ACCOUNTS.—SUBSCRIPTIONS

	1890-91	1891-92	1892-93	1893-94	1894-95	1895-96	1896-97	1897-98	1898-99	1899-00	1900-01	1901-02	1902-03	1903-04	1904-05
Freshman Foot-Ball	\$ 25.00	\$ 40.65	\$ 40.50	\$ 40.50	\$ 40.50		8654.60	9469.88	9611.40	91268.50	81483.00	8844.50	8981.25	8928.30	81,019.25
Freshman Race Ball	518.50	525.50	594.70	416.50			728.57	748.78	1,187.75	1,086.50	908.25	987.78	846.10	682.81	894.18
Freshman Crew	1,829.50	1,748.75	2,831.77	3,356.24	1,681.50		2,408.01		3,250.00	3,004.50	1,987.01	3,109.50	2,126.05	3,224.10	2,107.89
Athletic Association, Track Team	694.14	1,381.00	1,392.10	602.70					694.28	1,057.00	2,204.82	3,519.75	1,765.50	3,019.61	1,407.00
Cycling Association	647.25	615.50	105.68	120.00											
Foot-Ball Association	8,028.00	1,170.00													
Base-Ball Association															
Lawn Tennis Association	50.00	100.00	12.00							24.50	982.00	245.50	30.00	155.25	817.00
Cricket Club	402.10	825.62	895.18	226.50						4,765.04	4,977.78	2,232.50	1,684.90	1,022.75	3,002.80
Boat Club	8,317.70	5,175.78	4,855.14	5,457.09	15.05		2,052.17	1,519.16	4,083.10	477.85	844.88	17.77	266.00	249.67	212.00
Lacrosse Association							120.69				250.00				
Weld Boat Club										85.00					
Nereid Boat Club										508.22					
Freshman Basket-Ball														188.25	180.00
Basket-Ball Team													240.00	262.50	473.25
Hockey Club												432.90	287.40	492.50	859.50
Fencing Team												187.11	102.06	110.50	62.50
Freshman Hockey														151.06	47.25
Jot Jibes															57.50
Hand-Ball															2.54
Freshman Lacrosse															12.50
	11,791.19	11,466.70	10,692.47	6,501.08	2,360.15		7,319.04	2,777.50	5,028.13	12,275.31	11,408.78	9,023.44	5,181.25	9,088.99	10,057.28

III. BRANCHES OF ATHLETICS.

The branches of athletics under the supervision of the Committee at present include rowing, base-ball, foot-ball, track and field athletics, cricket, tennis, lacrosse, hockey, basket-ball, the gun club, gymnastics, the rifle and pistol club, fencing, hand-ball and golf. Jiu-jitsu has apparently dropped out. The oldest branch is rowing, which has already entered upon its second half-century of existence as a college sport. The year just past has witnessed some interesting experiments. In the fall season a plan of intramural competition by means of crews recruited from various dormitories or groups of dormitories was satisfactorily initiated. During the cold days of November animated contests occurred among sixteen eights composed almost entirely of men who were not engaged in intercollegiate competitions. The interest aroused promised much for the future, and the dormitory unit may become the most available basis for local contests. The experiment of a professional coach for the University squad was continued, and resulted in the first victory for a number of years. The crew was also ably captained and well manned. Encouraged by this success, the rowing management decided to attempt to arrange an informal race on the English Thames with the 'Varsity crew of Cambridge University. This invasion of English waters was welcomed with cordiality. The Harvard crew sustained an honorable defeat, and the occasion developed an increasing international friendliness.

The management of the base-ball nine determined to do without paid assistance during the season, although the available playing material was less experienced than usual.

The interest in track athletics was unabated and was enhanced the past year by the important competitions which were held in the Stadium. The general intercollegiate meet illustrated well the safety, convenience, and attractiveness of the edifice for such contests.

The season in foot-ball was unsatisfactory and disturbing. In the midst of warnings and remonstrances from many quarters the outcome of the fall campaign once more made clear the difficulty of playing this game acceptably under the existing rules. Even before the close of the season the head coach of the Harvard team called for a revision of the rules, and at the end of the year a wave of resentful remonstrance swept over the country, which had many important results. At some institutions, owing partly to local conditions, the game was prohibited outright. At others the number

and kind of contests were limited. Numberless suggestions were made for reforming the game. At Harvard the President had repeatedly pointed out its evils. The Overseers had condemned it in its present form, and the Faculty of Arts and Sciences expressed the opinion that intercollegiate foot-ball should be prohibited at Harvard until a reasonable game should have been formulated and exemplified in practice.

The Athletic Committee at a similar crisis in 1895 had been notified by the Governing Bodies that the question of the continuance or abolition of intercollegiate foot-ball was within the powers of the Committee under the standing rule of both bodies. (Vote of the Corporation, March 25, 1895; of the Overseers, April 10, 1895.) Early in the discussion the Committee voted that it would favor a continuance of the game at Harvard only in case the existing rules and regulations under which the game was played, and which it regarded as unsatisfactory, should be changed in such a way as to be acceptable to the Committee.

Meanwhile a committee of representative Harvard graduates, chiefly foot-ball experts, held a long series of meetings, and presented a set of suggestions for changes in the rules. Harvard withdrew its representatives from the old Foot-ball Rules Committee, which was then dissolved and the members united with a National Foot-ball Rules Committee which represented an organization of some seventy representatives of various institutions. The outcome of their deliberations was a set of rules which appeared to the Harvard Athletic Committee to afford a reasonable assurance that a satisfactory game might be played under them. That is to say, it seemed possible under the revised rules that those who wished to play a fair game would have a fair chance; and it seemed desirable and expedient to permit the Harvard team to coöperate with other University teams in the endeavor to test these rules in intercollegiate contests.

The Committee accordingly voted, so far as it had authority, to sanction the game at Harvard as an intercollegiate sport for the season of 1906, but delayed the foot-ball schedule until the Committee had reported, as requested, to the Governing Bodies, and the latter had expressed their opinion and taken such action as might seem to them best. The Corporation and Overseers having finally agreed to permit the game for 1906, the Committee then authorized the foot-ball management to proceed definitely with its schedule.

The season of 1906 is likely therefore to prove fateful for foot-ball. Both the game and the players are on trial. It remains to be proved whether a game which involves such intimate personal collision can

be played in a sportsmanlike manner, where there is the keenest spirit of competition, in the presence of large numbers of intensely partisan spectators. The issue is doubtful; but at least it cannot be said that the Harvard authorities have not exhausted every opportunity for permitting a final experiment.

The legislation accomplished by the Committee during the year embraced some important action. At the initiative of Harvard the following regulations were adopted concurrently by Harvard, Yale, and Princeton; and have since been imitated by a number of other institutions: —

1. No student shall be eligible for membership on a University team unless he shall have completed satisfactorily a full year's work at the University and has passed satisfactorily the examinations for an advance with his class.

2. No student shall be eligible for membership on a University team who holds a degree advanced enough to admit him at least to the Senior Class.

3. No Special Student shall be eligible to membership on a University team until

(a) he has satisfied entrance requirements equivalent to those required of Freshmen;

(b) has completed a full year's work equivalent to that required of candidates for a degree and has passed a satisfactory examination in said work;

(c) and is taking during his year of competition a full year's work at the University.

4. No student shall represent one or more universities or colleges in athletic contests more than three academic years. (This rule is not to affect students now in college.)

Otherwise the above rules are to go into effect in September, 1906, and are to relate to the four major sports only.

The regulations excluding Graduates and Freshmen from the Varsity teams in the major sports were afterwards extended by the Committee to cover all branches of sport. The Committee also voted that in its opinion a student in any Graduate Department should not be considered eligible for a University team.

The above regulations had long been under consideration, but their enactment was facilitated by a communication from the Faculty of Law intimating that such legislation would be desirable in the interests of the students under its direction.

The business of the Committee has steadily increased from year to year, so that some reorganization seems imperative. A joint Com-

mittee of the Corporation and Overseers was appointed in May to consider and report upon the whole subject of the regulation of athletic sports; and the Athletic Committee was directed meanwhile to sanction no appointment for intercollegiate contests later than December 1, 1906. The Athletic Committee has appointed a sub-committee to consider some rearrangements in its own administration. The members of the Athletic Committee serve voluntarily and gratuitously, but the major part of the burden falls to the lot of the Chairman, who has been a member of a Faculty, but has heretofore experienced no consequent diminution of his professorial duties. During the past year the Committee has held twenty-four meetings. These meetings are called by the Chairman. The business is prepared and the correspondence of the Committee is conducted by him. His correspondence involves the relations of the Committee to sixteen branches of sport and nine subsidiary branches, questions affecting the extensive athletic plant, and multitudinous inquiries from the outside world with reference to Harvard athletics. The Chairman is supposed to be familiar with the details of the management of all branches of the athletic plant, and with the financial situation. He is expected to sign various contracts, and to be informed concerning numerous appointments. He is subject to incessant calls and inquiries from representatives of all branches, a service which is almost always agreeable, but thoroughly time-absorbing. He is often called upon to represent the University in intercollegiate questions, a function occasionally involving delicate negotiations. In common with the other members of the Committee, he is supposed to have some personal knowledge of the way in which the various University teams conduct themselves. He is frequently called upon to interpret and enforce the Faculty rules and the Committee regulations. An entirely satisfying administration of the office would demand the full time and attention of its occupant. The Committee is assisted by a staff of permanent appointees, to whose competency and fidelity is due largely the fairly successful working of the system. The Graduate Treasurership, a position which is of great importance, has been filled by able and conscientious men, whose time, however, has been partly demanded by other duties; and the position has been occupied by the same person for only a year or two. If the present organization of the Committee be continued, it seems desirable to make the Graduate Treasurership a permanent and dignified post, with a salary sufficient to command and retain the services of the right man, preferably a comparatively recent graduate. The appointment of a permanent paid secretary

for the Committee, preferably some one familiar with the University administration, would be the next step to take. Should the chairmanship be occupied by a Faculty member, a corresponding diminution of his teaching duties would be appropriate. The reasonable demand of the undergraduates for some modifications of the student membership of the Committee and of the method of election should be examined and met.

HORATIO S. WHITE, *Chairman.*

THE GRADUATE SCHOOL OF ARTS AND SCIENCES.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—As Dean of the Graduate School of Arts and Sciences I have the honor to submit a report upon the School for the academic year 1905-06. Owing to my absence from America from immediately after the close of the year—to serve, by permission of the Corporation, as professor in the American School of Classical Studies at Athens during the current academic year—it has been impracticable for me to prepare the report myself. With the exception of this opening paragraph, it has been written by Mr. George W. Robinson, Secretary of the School, to whom my thanks are due. Professor Davis, Acting Dean during my absence, has at my request kindly added a postscript.

Herbert Thomas Poland, third-year student and Rogers Fellow, a scholar of the highest promise, died of typhoid fever at Rennes, France, on March 2, 1906. Mr. Poland had received from Harvard University the degrees of A.B. *summa cum laude* (1903) and A.M. (1904). From 1903 to 1905 he was a resident student in the Graduate School of Arts and Sciences in English and Celtic. As Rogers Fellow for 1905-06, he had been continuing his Celtic studies at the University of Rennes.

The School shared with the other departments of the University in the sorrow occasioned by the lamented deaths of Professor Paine and Professor Shaler; in the decease of Professor James Mills Peirce, on March 21, 1906, it suffered a loss in a sense peculiarly its own. For nearly a quarter of a century,—from 1872 to 1890 as Secretary of the Academic Council, from 1890 to 1895 as Dean of the Graduate School,—he was the leader in the development and administration of graduate instruction in Harvard University. To his foresight, sagacity, and originality, to his unceasing, patient, and judicious study of its needs, is due in no small measure the prosperity which the School has enjoyed for many years.

The need of a dormitory or series of dormitories for the use of students in the Graduate School of Arts and Sciences has been long realized, and has been emphasized repeatedly in these Reports. It

was felt that such a Graduates' Quadrangle or Hall would "prove of the highest value in promoting the sense of union and fellowship and of the solidarity of interests on the part of those who pursue the scholar's life, which is among the most powerful agents in the development of intellectual as well as moral character." * By the energy and initiative of one or two members of the Faculty, assisted by the officers of the Graduate Club, and through the wise liberality of the Corporation, measures were taken, during the latter part of the year 1905-06, to bring about the fulfilment of this long cherished plan. Conant Hall, on Oxford Street, one of the best of the College dormitories, was set aside for the use of students in the Graduate School of Arts and Sciences. The rents were somewhat reduced, and heat by hot water was supplied to all the rooms. Professor W. H. Schofield was chairman of the Faculty committee on the improvements. The building, after certain rearrangements, contains, besides the proctor's suite, 29 suites of study and bedroom, of which 12 are furnished, and 26 single rooms, the rents running from \$60 to \$210 per annum. The two suites in the south end of the building on the first floor, with the corridor between them, have been thrown together to form a large Common Room. This has been suitably furnished through a very generous gift of five hundred dollars from Mrs. Emil C. Hammer, of Boston. It is intended that the Common Room shall serve as a social centre not only for the students in the Hall, but for all members of the Graduate School of Arts and Sciences; and that it may be used for the meetings of the Graduate Club and of the various departmental clubs of Graduate membership.

The members of the Administrative Board were Professors Davis, Mark, G. F. Moore, H. W. Smyth, Kittredge, Münsterberg, Sabine, Bôcher, and Carver, and the Dean. The Board met once a month from October to June, omitting December and April. The most important questions which it had to consider, aside from routine business, concerned the relation of the degree of Doctor of Philosophy to the rapidly developing graduate instruction in the Medical School. Early in the year a student petitioned that provision be made to enable him to come up for the degree of Ph.D. on work in pharmacology, to be done as a graduate student in the Medical School. This request was referred to the Division of Chemistry for consideration and report. That Division reported that it would be glad to take charge of the student's work, adding to its number for the

* Report for 1901-02, p. 169.

purpose some medical men. This action was adopted by the Board. Later a communication was received from the Division of Chemistry, suggesting the establishment of a degree of Ph.D. in Biological Chemistry. After consulting the Division of Biology, the Board, while in general favoring the encouragement of work along chemico-biological lines, voted: "It is undesirable to provide for a new degree to be called Doctor of Philosophy in Biological Chemistry. Work of the kind suggested could in the opinion of the Board be adequately recognized by a degree either in Chemistry or in Biology, according as chemical or biological studies predominated in the candidate's work. Judging from past experience, all cases that are likely to arise can be provided for in this way. In examinations for such degrees, it would be in accordance with established practice for either Division to invite representatives of other Divisions to take part in the examination. In such cases there is precedent for giving less emphasis to the general subject of Chemistry (or Biology) than if the candidate were working wholly in that Division."

One new fellowship was established in the School during the year 1905-06, while another, previously established, was endowed. In 1905, the University received ten thousand dollars from the estate of Miss Eliza W. S. Parkman, to establish, in memory of her brother, the historian, the "Francis Parkman Fellowship," the income thereof to be applied "to the aid of meritorious students, pursuing advanced studies, whether at the University or elsewhere." In 1906, by vote of the Corporation, this fellowship was assigned to the Graduate School of Arts and Sciences. For the current year it is held as a travelling fellowship, with a stipend of four hundred and fifty dollars, by a distinguished student of history.

The Julia Amory Appleton Fellowship in Architecture, maintained since 1904 by an annual gift of one thousand dollars from Mr. Charles F. McKim, of New York, was endowed by Mr. McKim in 1906 with a principal of twenty thousand dollars.

The Edward William Hooper Fellowship, though established in 1905, was not assigned for the year 1905-06. For the present year the accumulation of income has permitted two appointments, each with a stipend of one thousand dollars.

The Association of American Universities, which was founded in 1900 for the promotion of graduate studies, but has since widened its scope to consider all advanced instruction, met for its seventh annual conference on March 14-17, 1906, at San Francisco, Berkeley, and Palo Alto, California. California, Chicago, Columbia, Cornell, Harvard, Johns Hopkins, Leland Stanford, Princeton, Wisconsin,

and Yale were represented; the Catholic University of America, Clark, Michigan, Pennsylvania, and Virginia sent no delegates. Papers were read and discussed on "Interchange of Professors in Universities," "To What Extent should the University Investigator be Relieved from Teaching?" "The Reaction of Graduate Work on the other Work of the University," and "The Changing Conception of 'The Faculty' in American Universities."

Following are the customary tables, in which the condition and progress of the School are presented in considerable detail.

TABLE I. — NUMBER AND CLASSIFICATION OF STUDENTS.

	1903-04.	1904-05.	1905-06.
I. Resident Students doing full work in the School for the whole academic year . . .	289	273	260
Resident Students not doing full work or not working for the whole year as Resident Students	123	105	133
	— 412	— 378	— 393
Non-Resident Students holding fellowships .	14	15	16
Non-Resident Students not holding fellowships	1	2	0
	— 15	— 17	— 16
II. Students whose studies lay chiefly in *			
i. Semitic Languages and History	2	2	2
ii. Ancient Languages (Classics and Sanskrit)	37	34	35
iii. Modern Languages (including Comparative Literature)	111	96	112
iv. History and Political Science	78	86	82
v. Philosophy (including Education)	64	52	40
vi. Fine Arts (including Architecture) . . .	15	19	13
vii. Music	5	4	9
viii. Mathematics	21	14	13
ix. Engineering	9	3	10
x. Physics	14	14	12
xi. Chemistry	25	27	39
xii. Biology	19	20	22
xiii. Geology	20	14	10
xiv. Anthropology	0	5	3
Unclassed Students	7	5	7
	— 427	— 395	— 409
III. First-year Students	259	237	220
Second-year Students	89	92	109
Third-year Students	51	45	54
Fourth-year Students	18	18	16
Students in a fifth or later year	10	3	10
	— 427	— 395	— 409

* For detailed statistics as to the number of Graduate Students enrolled in the various courses of instruction offered by the Faculty of Arts and Sciences, see the Report of the Dean of that Faculty, pp. 59-92.

IV. A.B.'s and S.B.'s of Harvard University and of no other institution	149	124	126
A.B.'s and S.B.'s (and holders of similar degrees) of other institutions and also of Harvard University	25	15	20
Students not holding the Harvard degree of A.B. or S.B.	253	256	263
	— 427	— 395	— 409
V. Students holding the Harvard degree of A.M., S.M., Ph.D., or S.D.	104	95	103
Students holding the Harvard degree of A.B. or S.B., but not of A.M., S.M., Ph.D., or S.D.	125	94	92
Students holding no Harvard degree in Arts, Philosophy, or Science	198	206	214
	— 427	— 395	— 409

Table I, to which Tables II, III, IV, and V are supplementary, shows the number of students in the School, resident and non-resident; their subjects of study; length of residence; and the numbers of those who hold or do not hold the Harvard first and

TABLE II.—PERCENTAGE OF STUDENTS IN THEIR FIRST AND FOLLOWING YEARS: 1900-06.

	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
First-year Students . .	54	50	54	61	60	53
Second-year Students .	28	26	26	21	24	26
Third-year Students .	15	12	11	12	11	13
Fourth-year Students and Students of longer residence .	8	12	9	6	5	8

second degrees. It shows a small increase in total membership; a loss in the number of first-year students and a gain in students of one year's standing or more, this shifting being a return toward the normal; and the increasing popularity of the Divisions of Modern Languages and Chemistry. The percentage of students from Harvard and from other colleges reveals no noteworthy change; but Table V shows a decline in the proportion of students from other colleges among first-year men — from 60% to 57%.

TABLE III. — RESIDENT STUDENTS DOING FULL WORK, AND NON-RESIDENT STUDENTS: 1886-1906.

	1886-87.	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
Resident Students doing full work in the School for the whole academic year .	88	48	50	62	62	108	127	162	161	175	194	171	218	227	226	218	216	289	273	260
Resident Students not doing full work or not working for the whole year as Resident Students	26	36	39	34	55	79	73	86	94	105	96	107	103	99	113	86	94	123	105	133
Whole number of Resident Students .	64	84	89	96	117	187	200	248	255	280	290	278	321	326	339	804	310	412	378	393
Non-Resident Fellows	10	10	9	11	11	9	9	10	12	13	14	15	12	13	14	11	15	14	15	16
Other Non-Resident Students	4	3	1	4	4	4	7	1	5	6	2	..	3	2	..	..	..	1	2	..
Whole number of Non-Resident Students	14	13	10	15	15	13	16	11	17	19	16	15	15	15	14	11	15	15	17	16
Whole number of students	78	97	99	111	132	200	216	269	272	299	306	293	336	341	353	315	325	427	395	409
Percentage of Resident Students doing full work for whole academic year .	59	57	56	65	53	58	64	65	63	63	67	62	68	70	67	72	70	70	72	66

TABLE IV. — PERCENTAGE OF STUDENTS FROM OTHER COLLEGES.

	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
Percentage of Students holding no Harvard degree	40	41	44	44	40	46	46	52	52
Percentage of Students holding no Harvard first degree in Arts or Sciences	55	55	61	62	56	62	59	65	64

TABLE V. — FIRST-YEAR MEN: PERCENTAGE FROM VARIOUS COLLEGES AND UNIVERSITIES—1901-06.

	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
Harvard	31	33	38	40	43
Other New England Colleges . .	14	20	21	13	13
Colleges in the Central States .	34	24	18	26	25
Colleges in States West of the Mississippi	9	12	9	12	8
Colleges in Southern States . .	4	6	7	5	3
Colleges in Canada	7	3	3	2	4
Foreign Universities . . . . .	..	..	4	3	4

Table VI reveals little change in the proportion of Bachelors' degrees of different kinds in the School. Tables IX and X show a small increase in the number of New England students relative to those from other parts of the country.

TABLE VI. — PERCENTAGE OF BACHELORS' DEGREES OF DIFFERENT KINDS: 1897-1906.

	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
A.B.'s	84	86	84	80	84	83	84	82	84
S.B.'s	9	8	10	11	11	10	10	12	12
Other Bachelors' degrees	7	6	6	9	5	7	6	6	4

Tables VII and VIII supplement each other and show in detail the extent to which different higher institutions of learning contribute to the membership of the School. In Table VII are given the various colleges and universities, including professional and technical schools, American and foreign, whose graduates were members of the School, together with the degrees these men held and the number of different men from each institution.

TABLE VII. — COLLEGES AND UNIVERSITIES, WITH DEGREES HELD: 1905-06.

	A.B.	S.B.	LITT.B.	Ph.B.	A.M.	S.M.	Ph.D.	S.T.B.	LL.B.	M.D.	No. De- grees.	No. Per- sons.
Acadia University, N.S.	2	.	.	.	1	.	.	.	.	.	3	2
Agricultural College of Utah	.	1	.	.	.	.	.	.	.	.	1	1
Alabama Polytechnic Institute	.	1	.	.	.	1	.	.	.	.	2	1
Allegheny College, Pa.	2	.	.	.	.	.	.	.	.	.	2	2
Amherst College, Mass.	6	2	.	.	3	.	.	.	.	.	11	8
Antioch College, O.	1	.	.	.	1	.	.	.	.	.	2	1
Baker University, Kan.	1	.	.	.	.	.	.	.	.	.	1	1
Bates College, Me.	3	.	.	.	.	.	.	.	.	.	3	3
Boston University, Mass.	3	.	.	.	1	.	1	1	.	.	7	7
Bowdoin College, Me.	3	.	.	.	.	.	.	.	.	.	3	3
Brigham Young College, Utah	1	.	.	.	.	.	.	.	.	.	1	1
Brown University, R. I.	9	.	.	2	4	.	.	.	.	.	16	12
Bucknell University, Pa.	1	1	.	.	.	.	.	.	.	.	2	2
Cæan University of France*	.	.	1	.	.	.	.	.	.	.	2	1
California University of	.	.	.	.	1	.	.	.	.	.	4	3
Central College of Iowa	2	1	.	.	.	.	.	.	.	.	1	1
Chicago University of Ill.	1	.	.	1	1	.	.	.	.	.	4	4
Cincinnati University of O.	1	.	.	.	.	.	.	.	.	.	1	1
Colgate University, N.Y.	1	.	.	.	.	.	.	.	.	.	1	1
College of Charleston, S.C.	1	.	.	.	.	.	.	.	.	.	1	1
College of the City of New York	1	1	.	.	.	.	.	.	.	.	2	1
Columbia University, N.Y.	2	.	.	.	2	.	.	.	.	.	4	4
Cornell College, Ia.	.	1	.	.	.	.	.	.	.	.	1	1
Cornell University, N.Y.	4	1	.	1	2	.	.	.	.	.	8	6
Dalhousie University, N.S.	3	1	.	.	.	.	.	.	.	.	4	4
Dartmouth College, N. H.	5	.	.	.	1	.	.	.	.	.	6	6
Delaware College	1	1	.	.	.	.	.	.	.	.	1	1
Denison University, O.	1	1	.	.	.	.	.	.	.	.	2	2
Earlham College, Ind.	1	.	.	.	.	.	.	.	.	.	1	1
Episcopal Theological School, Cambridge, Mass.	.	.	.	.	.	.	.	1	.	.	1	1
Franklin and Marshall College, Pa.	1	.	.	.	1	.	.	.	.	.	2	1
French-American College, Mass.	1	.	.	.	.	.	.	.	.	.	1	1
Georgetown College, Ky.	1	.	.	.	1	.	.	.	.	.	2	1

[illegible]

TABLE VII. — CONTINUED.

	A.B.	S.B.	Litt.B.	Ph.B.	A.M.	S.M.	Ph.D.	S.T.B.	LL.B.	M.D.	No. De- grees.	No. Per- sons.
New York University	1	..	..	..	1	..	..	..	..	..	2	1
North Carolina, University of	1	..	..	..	..	..	..	..	..	..	1	1
Northeastern Ohio Normal College	..	1	..	..	..	..	..	..	..	..	1	1
Northwestern University, Ill.	..	..	..	1	..	..	..	..	..	..	1	1
Northwestern University, Wis.	2	..	..	..	..	..	..	..	..	..	2	2
Oberlin College, O.	3	..	..	..	..	..	..	..	..	..	3	3
Ohio Northern University	..	..	1	..	..	..	..	..	..	..	1	1
Ohio Wesleyan University	11	..	1	..	1	..	..	..	..	..	13	12
Oregon Agricultural College	..	1	..	..	..	..	..	..	..	..	1	1
Oregon, University of	1	..	..	..	..	..	..	..	..	..	1	1
Ottawa University, Kan.	1	1	..	..	..	..	..	..	..	..	2	2
Oxford, University of, Eng.	1	1	..	..	1	..	..	..	..	..	3	3
Pack College, Mo.	1	..	..	..	1	..	..	..	..	..	2	2
Pennsylvania, University of	1	1	..	..	..	..	..	..	..	..	1	1
Polytechnic Institute of Brooklyn, N.Y.	1	..	..	..	..	..	..	..	..	..	2	2
Pomona College, Cal.	1	..	..	..	..	..	..	..	..	..	1	1
Princeton University, N.J.	3	..	..	..	2	..	..	..	..	..	5	3
Purdue University, Ind.	..	1	..	..	..	..	..	..	..	..	1	1
Queen's University, Ont.	..	..	..	..	2	..	..	1	..	..	3	2
Rhode Island College	..	1	..	..	..	..	..	..	..	..	1	1
Richmond College, Va.	1	..	..	..	1	..	..	..	..	..	2	1
Rochester, University of, N.Y.	4	..	..	1	..	..	..	..	..	..	4	4
St. Anselm's College, N.H.	1	..	..	..	..	..	..	..	..	..	2	1
St. Lawrence University, N.Y.	1	..	..	..	1	..	..	..	..	..	2	1
South, University of the, Tenn.	2	..	..	..	..	..	..	..	..	..	2	2
Southern University, Ala.	1	..	..	..	1	..	..	..	..	..	2	1
State College of Kentucky	1	..	..	..	1	..	..	..	..	..	2	1
State University of Iowa	1	..	..	2	1	1	1	..	..	..	6	3
Strasbourg, University of, Germany	..	..	..	..	..	..	1	..	..	..	1	1
Syracuse University, N.Y.	2	..	..	..	..	..	..	..	..	..	2	2
Tabor College, Ia.	1	..	..	..	..	1	..	..	..	..	1	1
Texas, University of	..	1	..	..	..	..	..	..	..	..	2	1
Toronto, University of, Ont.	8	..	..	..	1	..	..	..	..	..	4	3

[illegible]

* Besides the degrees enumerated above, the following were held by one or more persons each, as indicated: Agrégé-des-lettres, University of Paris, France; Agrégé-des-lettres, University of Caen, France; Diplôme d'études supérieures, and Agrégé-d'histoire et de géographie, University of Paris, France; Pd.B. (3), Michigan State Normal School, State Normal School, Warrensburg, Mo., and the New York State Normal College; B.Di. (2), Iowa State Normal School; M.Di. (2), Iowa State Normal School; B.A.S., Harvard University; M.E. (2), Brown University, R.I., and Massachusetts Institute of Technology. There were, further, in the School one non-graduate each of Andover Theological Seminary, Mass.; Newton Theological Institution, Mass.; and Reformed Theological Seminary, Pa. There were seven students from Japanese colleges and universities. There were two graduates of European gymnasia who had received no academic degree. There were thirty-one Harvard College Seniors on leave of absence; four other non-graduates of Harvard College; and one non-graduate of the Massachusetts Institute of Technology.

TABLE VIII. — COLLEGES AND UNIVERSITIES REPRESENTED BY FOUR OR MORE GRADUATES IN THE SCHOOL:
1901-02, 1902-03, 1903-04, 1904-05, 1905-06.

1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
Harvard, 189	Harvard, 174	Harvard, 232	Harvard, 192	Harvard, 197
Amherst, 8	Brown, 11	Amherst, 14	Ohio Wesleyan, 14	Brown, 12
Bowdoin, 8	Amherst, 10	Brown, 12	Dartmouth, 9	Ohio Wesleyan, 12
Brown, 7	Bowdoin, 7	Dartmouth, 12	Amherst, 8	Michigan, 10
California, 7	Dartmouth, 7	Michigan, 10	Williams, 8	Amherst, 8
Toronto, 6	Chicago, 7	Yale, 9	Brown, 7	Yale, 8
Dalhousie, 5	Michigan, 7	Ohio Wesleyan, 8	Yale, 6	Boston Univ., 7
Dartmouth, 5	Columbia, 6	Bowdoin, 7	Boston Univ., 5	Williams, 7
Ohio Wesleyan, 5	Leland Stanford Jr., 6	Haverford, 7	Bowdoin, 5	Cornell Univ., 6
Trinity (Conn.), 5	Northwestern, 6	Williams, 7	Cornell Univ., 5	Dartmouth, 6
New Brunswick, 5	Tufts, 6	Tufts, 6	Haverford, 5	Haverford, 5
Missouri, 5	California, 6	West Virginia, 6	Leland Stanford Jr., 5	Chicago, 4
Haverford, 4	Yale, 6	Boston Univ., 5	State Univ. of Iowa, 5	Columbia, 4
Oberlin, 4	Harvard, 5	Columbia, 5	Michigan, 5	Dalhousie, 4
Princeton, 4	Ohio Wesleyan, 5	Texas, 5	Rochester, 5	Indiana, 4
Tufts, 4	Trinity (Conn.), 5	Leland Stanford Jr., 4	Toronto, 5	Rochester, 4
Yale, 4	Texas, 4	Trinity (Conn.), 4	Bates, 4	Vanderbilt, 4
	Beloit, 4	California, 4	Missouri, 4	
	New York, 4	Pennsylvania, 4	Pennsylvania, 4	
	Williams, 4	Toronto, 4	Vanderbilt, 4	
	Wofford, 4	Wesleyan (Conn.), 4		
Total Membership, 315	325	427	395	409

TABLE IX. — BIRTHPLACES OF GRADUATE STUDENTS: 1898-1906.

	1898-99.	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
Students born in the New England States	143	122	127	107	122	168	132	149
Students born in other Northern States east of the Mississippi River	106	119	136	109	108	141	142	135
Students born in Southern States east of the Mississippi River	15	17	16	11	14	31	21	20
Students born in States west of the Mississippi River	30	34	30	39	39	35	42	44
Students born in the Dominion of Canada	25	23	21	22	16	17	19	24
Students born in other foreign countries	17	26	23	27	26	35	39	37
Total number of students	386	341	353	315	325	427	395	409
Percentage of students born in New England	43	36	36	34	38	39	33	37
Percentage of students born elsewhere	57	64	64	66	62	61	67	63

TABLE X. — RESIDENCES OF GRADUATE STUDENTS: 1902-1906.

	1902-03.	1903-04.	1904-05.	1905-06.
New England States	167	221	181	202
Northern States east of the Mississippi River	88	120	125	128
Southern States east of the Mississippi River	12	25	20	17
States west of the Mississippi River	40	38	44	35
Canada	12	13	10	12
Foreign countries	6	10	15	15
	325	427	395	409

Table XI shows the number of recommendations* for the higher degrees in 1904, 1905, and 1906. Table XII gives the number of recommendations for 1906, classified according to the Divisions and

* The number of persons recommended each year, and that of the men who actually receive the degree, as published in the Annual Catalogue, do not always agree. Usually a few of the candidates recommended do not receive the degree at once. The degree is in these cases ordinarily conferred in a later year, "as of" the year in which the recommendation was made.

TABLE XI.—RECOMMENDATIONS FOR DEGREES IN 1904-06.

	1904.	1905.	1906.
I. Graduate Students recommended for A.B. . . .	8	2	1
Graduate Students recommended for A.M. . . .	113	106	85
Graduate Students recommended for S.M. . . .	3	4	3
Graduate Students recommended for Ph.D. . . .	44	38	44
Graduate Students recommended for S.D. . . .	1 164	0 150	0 133
II. College Seniors recommended for A.M. . . .	0	0	1
College Seniors of a preceding year, recommended for A.M. on work done in Senior year	36	26	15
College Juniors of a preceding year, recommended for A.M. on work done in Junior year	0	0	1
Professional students recommended for A.M. on special courses of study	15	10	16
Professional students recommended for Ph.D. on special courses of study	2 53	1 37	2 35
Total of the above list	217	187	168
Deduct Graduate Students recommended for A.B.	8	2	1
Total number recommended for A.M., S.M., Ph.D., and S.D.	214	185	167
III. Harvard Bachelors of Arts or Science, not previously graduated elsewhere	95	78	68
Harvard Bachelors of Arts or Science, previously graduated elsewhere	11	3	6
Students not Harvard Bachelors of Arts or Science	108 214	104 185	98 167

Departments of the Faculty. The decrease in recommendations for the degree of Master of Arts, shown in Tables XI and XII, is brought about chiefly by two causes: the increase in the number of men who proceed directly to the Doctor's degree without taking an A.M. on the way, and the decline in the number of Harvard College Seniors who complete the requirements for the Master's degree.

TABLE XII.—DIVISIONS AND DEPARTMENTS IN WHICH RECOMMENDATIONS FOR THE HIGHER DEGREES WERE MADE IN 1906.

DIVISION.	DEPARTMENT.	DEGREES.			
		A.M.	S.M.	PH.D.	S.D.
I. Semitic Languages and History		1	..	..	..
II. Ancient Languages:					
Indic Philology	1	..
The Classics (Greek, Latin)		9	..	3	..
Total in Ancient Languages		— 9	— ..	— 4	— ..

DIVISION.	DEPARTMENT.	DEGREES.			
		A.M.	S.M.	PH.D.	S.D.
III. Modern Languages :					
	English	15	..	5	..
	Germanic Languages and Literatures	6	..	3	..
	French, and other Romance Languages and Literatures	6	..	7	..
	In more than one Department	2	..	..	..
	Total in Modern Languages	29	..	15	..
IV. History and Political Science :					
	History and Government	18	..	1	..
	Political Economy	10	..	4	..
	Total in Hist. and Political Sci.	28	..	5	..
V. Philosophy					
	[Education	1]	..	3	..
VI. The Fine Arts :					
	History and Principles of the Fine Arts . . . . .	..	..	..	..
	Architecture	1	..	..	..
	Total in the Fine Arts	1	..	..	..
VII. Music					
		1	..	..	..
VIII. Mathematics					
		3	..	1	..
IX. Engineering					
		3	..	..	..
X. Physics					
		2	..	2	..
XI. Chemistry					
		9	2	3	..
XII. Biology :					
	Botany	2	..	2	..
	Zoölogy	1	1	7	..
	Total in Biology	3	1	9	..
XIII. Geology :					
	Geology and Geography	3	..	2	..
	Mineralogy and Petrography . . . . .	..	..	..	..
	Mining and Metallurgy . . . . .	..	..	..	..
	Total in Geology	3	..	2	..
XIV. Anthropology					
		1	..	..	..
In more than one Division					
		2	..	..	..
Professional Students :					
	Divinity School	10	..	2	..
	Law School	5	..	..	..
	Medical School	1	..	..	..
	Total	16	3	4	..

The degree of Doctor of Philosophy was conferred upon the forty-six men named below : with each name is indicated the special field in which the degree was taken, the candidate's academic history in brief, the subject of his thesis, and his present occupation.

Philology.

FREDERIC WILLIS BROWN.

Romance Philology.—A.B. 1897, A.M. 1903.
—Res. Gr. Stud., 1902-06.
Thesis: "An Historical Study of the Preterite Tense in Italian."
Instructor in French, Collegiate Department of Clark University.

PAUL GUSTAV ADOLF BUSSE.

Germanic Philology.—A.B. (*Northwestern Univ., Ill.*) 1900, A.M. (*ibid.*) 1900.—Res. Gr. Stud., 1902-03.
Thesis: "Grillparzer und die Politik."
Instructor in German, University of Wisconsin.

WALTER EUGENE CLARK.

Indic and Classical Philology.—A.B. 1903, A.M. 1904.—Res. Gr. Stud., 1903-06.
Thesis: "Quid de Rebus Indicis scirent Graeci Prisci quae situr."
Continuing his studies at Berlin, as Rogers Fellow.

ALFRED LESTER COESTER.

Romance Philology.—A.B. 1896, A.M. 1906.—Res. Gr. Stud., Sept. 1904-Mar. 1905.
Thesis: "Compression in the Old Spanish Poems del Cid."
Teacher of Spanish, Brooklyn Commercial High School.

WILLIAM ARNOLD COLWELL.

Germanic Philology.—A.B. (*Dartmouth Univ., O.*) 1899, A.M. (*Harvard Univ.*) 1902.—Res. Gr. Stud., 1901-06.
Thesis: "A Study of German Literature in England from 1760 to 1800."
Instructor in German at this University.

WILLIAM MERRIAM CRANE.

Semitic Philology.—A.B. 1902, S.T.B. 1904.—Res. Gr. in the Harvard Divinity School, 1905-06.
Thesis: "The History of the Figure of Christ."
Continuing his studies in Syria.

FRITZ SAGE DARROW.

Classical Archaeology.—A.B. 1903, A.M. 1904.—Gr. Stud., 1903-06.
Thesis: "The History of Corinth from Mummus to Herodes Atticus."
Professor of Greek, Dickinson College.

WILLIAM MORTON DEY.

Romance Philology.—A.B. (*Univ. of Virginia*) 1902, A.M. (*ibid.*) 1902, A.M. (*Harvard Univ.*) 1904.—Res. Gr. Stud., 1903-06.
Thesis: "The History of the Prefix *Por-* in Old French."
Assistant Professor of Romance Languages, University of Missouri.

JOHN GLANVILLE GILL.

Romance Philology.—A.B. (*Ottawa Univ., Can.*) 1896, A.M. (*Harvard Univ.*) 1906.—Res. Gr. Stud., 1904-06.
Thesis: "Agglutination as a Process of Word Formation in Old French."
Tutor in Romance Languages, Columbia University.

HARRIE STUART VEDDER JONES.

English Philology.—A.B. (*Coll. of Charleston, S.C.*) 1899, A.B. (*Harvard Univ.*) 1901, A.M. (*ibid.*) 1904.—Res. Gr. Stud., 1903-06.
Thesis: "Chaucer's Squire's Tale: An Investigation of the English Fragment, the Old French *Cleomades*, and Analogous Folk-Tales."
Instructor in English, University of Illinois.

PERCY WALDRON LONG.

English Philology.—A.B. 1898, A.M. 1900.—Res. Gr. Stud., 1899-1900 and 1901-03.
Thesis: "Courtly Love in the Reign of Queen Elizabeth."
Lecturer in English Literature, Bryn Mawr College.

ARTHUR PATCH MCKINLAY.

Classical Philology.—A.B. (*Univ. of Oregon*) 1898, A.M. (*Harvard Univ.*) 1904.—Res. Gr. Stud., 1901-02 and 1903-06.
Thesis: "De Operibus Boethii Quaestiones Variae."
Instructor in Classics, University of Idaho.

CLARENCE KING MOORE.

Romance Philology.—A.B. 1897, A.M. 1898.—Res. Gr. Stud., 1897-98.
Thesis: "An Historical Study of the Spanish Preposition *d* with the Accusative Case."
Instructor in Romance Languages, University of Rochester.

WILLIAM CHARLES MORRO.

Biblical and Patristic Greek.—A.B. (*Kentucky Univ.*) 1898, A.M. (*ibid.*) 1903, S.T.B. (*Yale Univ.*) 1904.—Res. Gr. in the Harvard Divinity School, 1904-06.
Thesis: "Paul's Terms for Vice and Virtues."
Professor of Sacred History, College of the Bible, Kentucky University.

GILBERT CAMPBELL SCOGGIN.

Indic Philology.—A.B. (*Vanderbilt Univ., Tenn.*) 1902, A.M. (*ibid.*) 1902.—Res. Gr. Stud., 1904-06.
Thesis: "Ancient Life in India as Depicted in the *Jataka*."
Teacher of Greek, Hotchkiss School, Lakeville, Conn.

STUART PRATT SHERMAN.

English Philology.—A.B. (*Williams Coll.*) 1903, A.M. (*Harvard Univ.*) 1904.—Res. Gr. Stud., 1903-06.
Thesis: "John Ford's Debt to his Predecessors and Contemporaries, and his Contribution to the Decadence of the Drama."
Instructor in English, Northwestern University.

WILBUR OWEN SYPHERD.

English Philology.—A.B. (*Delaware Coll.*) 1896, S.B. (*Univ. of Pennsylvania*) 1900, A.M. (*Harvard Univ.*) 1901.—Res. Gr. Stud., 1900-01 and 1903-06.
Thesis: "Studies in Chaucer's 'House of Fame.'"
Professor of English, Delaware College.

ROBERT PALFREY UTTER.

English Philology.—A.B. 1898.—Res. Gr. Stud., 1903-06.
Thesis: "Studies in the Origins of the English Novel."
Instructor in English, Amherst College.

HERBERT HUNTER VAUGHAN.

Romance Philology.—A.B. (*Univ. of Michigan*) 1903.—Res. Gr. Stud., 1903-05.
Thesis: "The Language of *Il Fiore*."
Acting Assistant Professor of Romance Languages, University of Kansas.

HERMANN JULIUS WEBER.

Germanic Philology.—Gr., *Johanne Gymnasium, Hamburg, Germany*, 1886.—Res. Gr. Stud., 1902-05.
Thesis: "Studien zur Bedeutungslehre im Sprachgebrauche Winckelmanns."
Continuing his studies in Germany, as John Harvard Fellow.

CASIMIR DOUGLASS ZDANOWICZ.
Romance Philology. — A.B. (*Vanderbilt Univ., Tenn.*) 1903, A.M. (*Harvard Univ.*) 1905. — Res. Gr. Stud., 1903-06.
Thesis: "Greek Proper Names in Old French."
Continuing his studies at Paris, as Harris Fellow.

Philosophy.

ALBERT FRANCIS BUCK.
Logic. — A.B. (*Amherst Coll.*) 1890, A.M. (*Harvard Univ.*) 1894. — Res. Gr. Stud., Feb.-June, 1892, and 1893-95.
Thesis: "The Concept of Quantitative Equality."
Residing at Stoneham, Mass.

MORRIS RAPHAEL COHEN.
Ethics. — S.B. (*Coll. of the City of New York*) 1900. — Res. Gr. Stud., 1904-06.
Thesis: "Kant's Doctrine as to the Relation between Duty and Happiness."
Tutor in Philosophy, College of the City of New York.

BENJAMIN APTHORP GOULD FULLER.
History of Philosophy. — A.B. 1900, A.M. 1902, S.B. (*Univ. of Oxford, England*) 1905. — Gr. Stud., 1900-02 and 1904-06.
Thesis: "The Problem of Evil in Plotinus."
Assistant in Philosophy at this University.

Mathematics.

WILLIAM HENRY ROEVER.
Geometry. — S.B. (*Washington Univ., Mo.*) 1897, A.M. (*Harvard Univ.*) 1904. — Res. Gr. Stud., 1897-98, 1901-02, and 1903-06.
Thesis: "Brilliant Points."
Instructor in Mathematics, Massachusetts Institute of Technology.

History.

CHARLES EDMUND FRYER.
English History. — Ph.B. (*Univ. of California*) 1899, Litt.M. (*ibid.*) 1901, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901-03.
Thesis: "Political Opposition to English Church Establishment: A Statistical and Sectional View."
Lecturer on History, McGill University.

Economics.

STUART DAGGETT.
Transportation. — A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903-04.
Thesis: "Railroad Reorganization."
Instructor in Economics at this University.

JOSEPH CLARENCE HEMMEON.
Sociology. — A.B. (*Acadia Univ., N.S.*) 1898, A.M. (*ibid.*) 1903, A.M. (*Harvard Univ.*) 1904. — Res. Gr. Stud., 1903-06.
Thesis: "The Organization and Development of the British Post Office to 1840."
Instructor in Economics, University of Illinois.

GEORGE RANDALL LEWIS.
Economic History. — A.B. 1902. — Gr. Stud., 1902-06.
Thesis: "The Stannaries: A Study of the Rise and Development of the Early English Miner."
Austin Teaching Fellow in Economics at this University.

CHESTER WHITNEY WRIGHT.
Economic History. — A.B. 1901, A.M. 1902. — Res. Gr. Stud., 1902-04.
Thesis: "The Economic History of Wool Growing in the United States to 1860."
Instructor in Economics, Cornell University.

Physics.

HARVEY NATHANIEL DAVIS.
Mathematical Physics. — A.B. (*Brown Univ., R.I.*) 1901, A.M. (*ibid.*) 1902, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1902-06.
Thesis: I. "A P.Q. Plane for Thermodynamic Cyclic Analysis." II. "The Longitudinal Vibrations of a Rubbed String."
Instructor in Physics at this University.

ALPHEUS WILSON SMITH.
Heat. — A.B. (*West Virginia Univ.*) 1900, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1902-Feb. 1906.
Thesis: "Expansion and Compressibility of Ether and of Alcohol in the Neighborhoods of their Boiling Points."
Instructor in Physics, Haverford College.

Chemistry.

MURRAY ARNOLD HINES.
Inorganic Chemistry. — A.B. (*St. Lawrence Univ., N.Y.*) 1899, A.M. (*ibid.*) 1901, A.B. (*Harvard Univ.*) 1901, A.M. (*ibid.*) 1903. — Res. Gr. Stud., 1901-04 and 1906-06.
Thesis: "A Revision of the Atomic Weight of Manganese."
Chemist, Mallinckrodt Chemical Co., St. Louis, Mo.

BURRITT SAMUEL LACY.
Physical Chemistry. — A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903-06.
Thesis: "Temperature Coefficients of Concentration Cells and of Electrodes and the Thomson Effect in Electrolytes."
Continuing his studies at Karlsruhe, as Parker Fellow.

ROBERT DAWSON MACLAURIN.
Organic Chemistry. — A.B. (*McMaster Univ., Ont.*) 1902, A.M. (*ibid.*) 1903. — Res. Gr. Stud., 1903-06.
Thesis: "Derivatives of Substituted Orthobenzoquinones."
Research Fellow, Rockefeller Institute for Medical Research, New York City.

Biology.

HENRY BRYANT BIGELOW.
Zoölogy. — A.B. 1901, A.M. 1903. — Res. Gr. Stud., 1902-04 and 1905-06.
Thesis: "Studies on the Nuclear Cycle of *Gonionemus murbachii* Mayer."
Assistant in the Museum of Comparative Zoölogy at this University.

LEON JACOB COLE.

Zoölogy. — A.B. (*Univ. of Michigan*) 1901.
— Res. Gr. Stud., 1902-08.
Thesis: "An Experimental Study of the Image-Forming Powers of Various Types of Eyes."
Chief of the Division of Animal Breeding and Pathology, Rhode Island Agricultural Experiment Station.

ARTHUR DAY HOWARD.

Zoölogy. — S.B. (*Amherst Coll.*) 1898, S.M. (*Northwestern Univ., Ill.*) 1901. — Res. Gr. Stud., 1902-06.
Thesis: "The Visual Cells in Vertebrates, chiefly in *Necturus Maculosus*."
Instructor in Biology, Westminster College, Pa.

GEORGE RICHARD LYMAN.

Botany. — A.B. (*Beloit Coll., Wis.*) 1894, A.B. (*Harvard Univ.*) 1897, A.M. (*ibid.*) 1899. — Res. Gr. Stud., 1896-1901.
Thesis: "Culture Studies of Hymenomyces."
Assistant Professor of Biology (Botany), Dartmouth College.

JOHN HANCOCK MCCLELLAN.

Zoölogy. — A.B. (*Univ. of Michigan*) 1897, A.M. (*ibid.*) 1899. — Res. Gr. Stud., 1902-06.
Thesis: "The Development of the Excretory System of *Amia calva*."
Continuing his studies at Berlin, as Parker Fellow.

HANSFORD MACCURDY.

Zoölogy. — A.B. (*Ohio Wesleyan Univ.*) 1895, A.M. (*Harvard Univ.*) 1906. — Res. Gr. Stud., 1904-06.
Thesis: "The Influence of Selection on Color Pattern in Guinea Pigs and Rats."
Professor of Biology and Geology, Alma College.

SAMUEL OTTMAR MAST.

Zoölogy. — S.B. (*Univ. of Michigan*) 1899. — Res. Gr. Stud., 1903-04.
Thesis: "Light Reactions in Lower Organisms: I. *Stentor Coeruleus*."
Professor of Biological Science, Hope College.

LINCOLN WARE RIDDLE.

Botany. — A.B. 1902, A.M. 1906. — Res. Gr. Stud., 1903-06.
Thesis: "Contributions to the Cytology of the Entomophthoraceae."
Instructor in Botany, Wellesley College.

HERBERT EUGENE WALTER.

Zoölogy. — A.B. (*Bates Coll., Me.*) 1892, A.M. (*Brown Univ., R.I.*) 1893. — Res. Gr. Stud., 1903-06.
Thesis: "The Reactions of Planarians to Light."
Assistant Professor of Comparative Anatomy, Brown University.

Geology.**JAMES WALTER GOLDTHWAIT.**

General Geology. — A.B. 1902, A.M. 1903. — Res. Gr. Stud., 1902-04.
Thesis: "The Abandoned Shore Lines of Eastern Wisconsin."
Assistant Professor of Geology, Northwestern University.

GEORGE ROGERS MANSFIELD.

General Geology. — S.B. (*Amherst Coll.*) 1897, A.M. (*ibid.*) 1903. — Res. Gr. Stud., 1902-06.
Thesis: "The Origin and Structure of the Roxbury Conglomerate."
Instructor in Geology at this University.

Tables XIII and XIV relate to the age of men recommended for degrees, and show the continued attractiveness of the degrees offered by the School, not merely to young men fresh from college, but to teachers of maturity and experience. Table XV presents the usual statistics as to the assignment of fellowships and scholarships. The number of applications — 323 — shows more than a recovery from the small loss of the preceding year.

TABLE XIII. — AGE OF GRADUATE STUDENTS RECOMMENDED FOR THE DEGREES OF MASTER OF ARTS, MASTER OF SCIENCE, AND DOCTOR OF PHILOSOPHY: 1906.*

	20	21	22	23	24	25	26	27	28-34	35-39	40 or over	Total.
A.M.'s . . .	2	6	5	11	10	8	10	5	21	5	1	84
S.M.'s . . .	..	..	1	1	..	..	..	..	1	..	..	3
Ph.D.'s . . .	..	..	1	..	4	6	3	6	19	5	..	44

* Men recommended for "as of" degrees are not included.

TABLE XIV. — AGE OF GRADUATE STUDENTS RECOMMENDED FOR THE DEGREE OF DOCTOR OF PHILOSOPHY: 1897–1906.

	22	23	24	25	26	27	28 or over.	Average age of men 27 or under.	Percentage of men 28 or older.
1897 . . . . .	..	..	3	1	4	2	15	25.5	60
1898	1	..	1	4	2	2	15	25.2	60
1899	1	4	2	3	2	1	8	24.3	38
1900 . . . . .	..	2	3	4	2	6	18	25.4	51
1901 . . . . .	..	..	1	3	5	3	17	25.3	59
1902 . . . . .	..	1	2	3	4	2	16	25.3	57
1903 . . . . .	..	..	2	4	3	3	16	25.6	58
1904 . . . . .	..	..	4	4	7	5	24	26.1	55
1905 . . . . .	..	3	1	5	7	5	17	26	45
1906	1	..	4	6	3	6	24	25.9	55

TABLE XV. — FELLOWSHIPS AND SCHOLARSHIPS (1904–07).

1. *Applications and Appointments.*

	1904-05.	1905-06.	1906-07.
Spring applicants for reappointment or promotion	51	46	57
Spring applicants for a first appointment	207	211	222
Later applicants	58 316	44 301	44 323
Appointed to fellowships	22	21	27
Appointed to scholarships	59	54	61
Appointed instructors, teaching fellows, or assistants	22 103	25 100	28 116
Deduct for repetitions	4	2	7
	99	98	109
Entered or continued in the Graduate School of Arts and Sciences without receiving any of the above-named appointments	73	38	50
Entered undergraduate classes of Harvard College	0	1	2
Entered other Departments of the University	2 75	1 40	3 55
Applicants who were at the University in the year following their applications	174	133	164
Applicants not at the University in that year	142	163	159
	316	301	323

2. *Classification of Applicants and Appointees.*

	1904-05.		1905-06.		1906-07.	
	Applicants.	Appointees.	Applicants.	Appointees.	Applicants.	Appointees.
Students of Philology	138	23	122	25	124	28
Students of Philosophy, History, or Political Science	92	29	85	21	105	28
Students of Mathematics, Physics, and Chemistry	51	17	61	15	62	15
Students of Natural History	28	8	25	11	22	10
Students of other branches, or unclassified	7	4	8	3	10	7
	316	81	301	75	323	88
Students in Graduate School of Arts and Sciences	108	42	99	50	103	45
Students in Harvard College	25	6	19	3	23	5
Students in other Departments of the University	11	5	3	2	6	2
Former students in some Department of the University	23	5	26	2	31	12
Persons never previously members of the University	149	23	154	18	160	24
	316	81	301	75	323	88
Harvard Bachelors of Arts or Science, not previously graduated elsewhere	32	12	36	16	39	18
Harvard Bachelors of Arts or Science, previously graduated elsewhere	13	2	14	3	8	3
Graduates of other institutions, not Harvard Bachelors of Arts or Science	219	56	209	50	220	58
Undergraduates of Harvard College or Lawrence Scientific School, not already graduated elsewhere	28	9	22	5	29	8
Undergraduates of other institutions and other non-graduates	24	2	20	1	27	1
	316	81	301	75	323	88

The names of the holders of fellowships for last year and for the current year (with their present occupation and residence) follow.

1905-06.

Harris Fellowship (1868).

DAVID BRAINERD SPOONER.

A.B. (*Leland Stanford Jr. Univ., Cal.*) 1899, PH.D. (*Harvard Univ.*) 1906. — Non-Res. Stud., 1902-04 and 1905-06; Res. Gr. Stud., 1904-06. — Travelling Fellow in Indic Philology, 1902-04; Christopher M. Weld Scholar, 1904-06. — Student of Indic Philology, at Berlin.

Director of the Archaeological Survey of India, Northwest Frontier Provinces.

1906-07.

CASIMIR DOUGLASS ZDANOWICZ.

A.B. (*Vanderbilt Univ., Tenn.*) 1903, A.M. (*Harvard Univ.*) 1906, PH.D. (*ibid.*) 1906. — Res. Gr. Stud., 1903-06. — Townsend Scholar, 1905-06.

Student of Romance Languages, at Paris.

Rogers Fellowships (1869).

ARTHUR STANLEY PEASE.

A.B. 1902, A.M. 1903, PH.D. 1906. — Res. Gr. Stud., 1902-05; Non-Res. Stud., 1905-06. — Charles Haven Goodwin Scholar, 1902-03; Edward Austin Fellow, 1904-06. — Student of Classical Philology, in Europe.

Instructor in Latin at this University.

HERBERT THOMAS POLAND.

A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903-06; Non-Res. Stud., 1905-06. — Edward Austin Fellow, 1904-06. — Student of Celtic, in Europe.

Died at Rennes, France, March 2, 1906.

WALTER EUGENE CLARK.

A.B. 1903, A.M. 1904, PH.D. 1906. — Res. Gr. Stud., 1903-06. — Shattuck Scholar, 1903-04. Student of Indic Philology, at Berlin.

WALTER JAMES SHEPARD.

(See Parker Fellowships, 1906-06.)

Parker Fellowships (1873).

GEORGE RANDALL LEWIS.

A.B. 1902, PH.D. 1906. — Res. Gr. Stud., 1902-04; Non-Res. Stud., 1904-06. — Henry Lee Memorial Fellow, 1903-04; Rogers Fellow, 1904-06. — Student of Economics, in London.

Austin Teaching Fellow in Economics at this University.

WALTER JAMES SHEPARD.

A.B. (*Willamette Univ., Ore.*) 1900, A.B. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1903-05; Non-Res. Stud., 1905-06. — Austin Teaching Fellow in History, 1903-05. — Student of History, at Heidelberg.

Continuing his studies at London, as Rogers Fellow.

ELIJAH SWIFT.

A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903-04; Non-Res. Stud., 1904-06. — Shattuck Scholar, 1903-04; Harris Fellow, 1904-06. — Student of Mathematics, at Göttingen.

Continuing his studies at Göttingen, as John Harvard Fellow.

LEROY ALBERT HOWLAND.

A.B. (*Wesleyan Univ., Conn.*) 1900, A.M. (*Harvard Univ.*) 1904. — Res. Gr. Stud., 1903-05. — Shattuck Scholar, 1904-05. Student of Mathematics, at Munich.

BURRITT SAMUEL LACY.

(See John Harvard Fellowships, 1906-06.)

JOHN HANCOCK MCCLELLAN.

A.B. (*Univ. of Michigan*) 1897, A.M. (*ibid.*) 1899, PH.D. (*Harvard Univ.*) 1906. — Res. Gr. Stud., 1903-06. — Virginia Barret Gibbs Scholar, 1903-06.

Student of Zoölogy, at Berlin.

John Thornton Kirkland Fellowship (1873).

DEAN PUTNAM LOCKWOOD.

A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903-05; Non-Res. Stud., 1905-06. — Charles Haven Goodwin Scholar, 1903-06. — Student of Classical Philology, at Munich. Continuing his studies at this University.

HARRY LOUIS GIDEON.

A.B. (*Louisville Male High School, Ky.*) 1896, A.M. (*Harvard Univ.*) 1906. — Res. Gr. Stud., 1905-06. — University Scholar, 1905-06. Student of Music, at Paris.

1905-06.

1906-07.

James Walker Fellowship (1881).

CLEMENT LESLIE VAUGHAN.

A.B. (*Acadia Univ., N.S.*) 1898, A.B. (*Harvard Univ.*) 1903, PH.D. (*Ibid.*) 1906. — Res. Gr. Stud., 1903-06; Non-Res. Stud., 1906-06. — University Scholar, 1903-04; Townsend Scholar, 1904-05. — Assistant in Philosophy, 1904-06. — Student of Philosophy, at Berlin.

Continuing his studies at Berlin.

HORACE MEYER KALLEN.

A.B. 1903. — Res. Gr. Stud., 1905-06. Student of Philosophy at this University.

John Tyndall Scholarship (1885).

PERCY WILLIAMS BRIDGMAN.

A.B. 1904, A.M. 1905. — Res. Gr. Stud., 1904-06. — Whiting Fellow, 1904-06. — Student of Physics at this University.

Continuing his studies at this University, as John Tyndall Scholar.

PERCY WILLIAMS BRIDGMAN.

Reappointed.

Robert Treat Paine Fellowship (1887).

JAMES FORD.

A.B. 1905. — Res. Gr. Stud., 1904-06. — Student of Social Science at this University. Continuing his studies at Paris, as Robert Treat Paine Fellow.

JAMES FORD.

Reappointed.

Henry Lee Memorial Fellowship (1889).

CHARLES PHILLIPS HUSE.

A.B. 1904, A.M. 1906. — Res. Gr. Stud., 1904-06. — University Scholar, 1904-06. — Student of Economics at this University. Assistant in Economics and Graduate Student at this University.

WALTER WALLACE McLAREN.

A.M. (*Queen's Univ., Ont.*) 1899, S.T.B. (*Ibid.*) 1902. — Res. Gr. Stud., 1905-06. — Gorham Thomas Scholar, 1906-06. Student of Economics at this University.

Ozias Goodwin Memorial Fellowship (1889).

WILLIAM OSCAR SCROGGS.

S.B. (*Alabama Polytechnic Institute*) 1899, S.M. (*Ibid.*) 1900, A.M. (*Harvard Univ.*) 1906. — Res. Gr. Stud., 1904-06. — University Scholar, 1904-06. — Student of History and Government at this University. Continuing his studies at this University, as Edward Austin Fellow.

CLARENCE PERKINS.

A.B. (*Syracuse Univ., N.Y.*) 1901, A.M. (*Harvard Univ.*) 1904. — Res. Gr. Stud., 1903-06. — Thayer Scholar, 1904-06; Edward Austin Fellow, 1906-06. Student of History and Government, at London.

Henry Bromfield Rogers Memorial Fellowship (1889).

(Not assigned.)

CHARLES EDWARD PERSONS.

A.B. (*Cornell Coll., Ia.*) 1903, A.M. (*Harvard Univ.*) 1905. — Res. Gr. Stud., 1904-06. Student of Economics at this University.

Hemenway Fellowship (1891).

VILHJÁLMUR STEFÁNSSON.

Reappointed.

A.B. (*State Univ. of Iowa*) 1903. — Special Div. Stud., 1903-04; Res. Gr. Stud., 1904-06. — Student of Anthropology at this University.

Engaged in anthropological investigations among the Arctic Esquimaux.

(Not assigned.)

1905-06.

John Harvard Fellowships (1895).

JAMES ALFRED FIELD.

A.B. 1903. — Res. Gr. Stud., 1903-05; Non-Res. Stud., 1905-06. — Assistant in Economics, 1903-04; Austin Teaching Fellow in Economics, 1904-05. — Student of Economics, at Berlin.
Instructor in Economics at this University.

BURRITT SAMUEL LACY.

A.B. 1903, A.M. 1904, PH.D. 1906. — Res. Gr. Stud., 1903-06. — Assistant in Chemistry, 1903-06. — Student of Chemistry and Assistant in Chemistry at this University.
Continuing his studies at Carlsruhe, as Parker Fellow.

JOHN CHRISTIAN RANSMEIER.

PH.B. (*Northwestern Univ., Ill.*) 1894, A.M. (*Harvard Univ.*) 1898, PH.D. (*Ibid.*) 1901. — Res. Gr. Stud., 1897-1901; Non-Res. Stud., 1905-06. — Thayer Scholar, 1898-99; Shattuck Scholar, 1899-1900; Morgan Fellow, 1900-01. — Assistant in German, 1899-1900. — Student of Germanic Philology, at Berlin.
Continuing his studies at Berlin.

ALEXANDER MACKENZIE THOMPSON.

A.M. (*Queen's Univ., Ont.*) 1902, A.B. (*Harvard Univ.*) 1903, A.M. (*Ibid.*) 1904. — Res. Gr. Stud., 1903-05; Non-Res. Stud., 1905-06. — Student of Classical Philology, at Paris.
Continuing his studies at this University as John Harvard Fellow.

CHARLES MARSHALL UNDERWOOD, JR.

A.B. 1900, A.M. 1901, PH.D. 1905. — Res. Gr. Stud., 1900-01 and 1903-05; Non-Res. Stud., 1905-06. — Austin Scholar, 1903-04. — Austin Teaching Fellow in Romance Languages, 1900-01 and 1904-05. — Student of Romance Languages, and Fellow of the Ministry of Public Instruction of the French Republic, at Paris.
Instructor in French and Italian, University of Cincinnati.

1906-07.

GEORGE SHANNON FORBES.

A.B. 1902, A.M. 1904, PH.D. 1905. — Res. Gr. Stud., 1902-05. — Assistant in Chemistry, 1900-04; Austin Teaching Fellow in Physical Chemistry, 1904-05; Lecturer on Physical Chemistry, 1905-06.
Student of Chemistry, at Leipsic.

ELIJAH SWIFT.

(See Parker Fellowships, 1906-06.)

ALEXANDER MACKENZIE THOMPSON.

Reappointed.

CHARLES HANSEN TOLL.

A.B. (*Hamilton Coll., N. Y.*) 1904, A.M. (*Harvard Univ.*) 1905. — Res. Gr. Stud., 1904-06.
Student of Philosophy, in India.

HERMANN JULIUS WEBER.

Gr., *Johannine Gymnasium, Hamburg, Germany*, 1886, PH.D. (*Harvard Univ.*) 1906. — Res. Gr. Stud., 1902-05. — Austin Teaching Fellow in German, 1903-04; Instructor in German, 1904-06.
Student of German Philology, in Europe.

ARTHUR FISHER WHITTEM.

A.B. 1902, A.M. 1903. — Res. Gr. Stud., 1902-04. — Austin Teaching Fellow in Romance Languages, 1902-04; Instructor in Romance Languages, 1904-06.
Student of Romance Languages, and Fellow of the Ministry of Public Instruction of the French Republic, at Paris.

Whiting Fellowships (1895).

CONRAD LOUIS BENONI SHUDDMAGEN.

S.B. (*Univ. of Texas*) 1902, S.M. (*Ibid.*) 1904. — Res. Gr. Stud., 1904-06. — Thayer Scholar, 1904-05. — Student of Physics at this University.
Continuing his studies at this University, as Whiting Fellow.

CONRAD LOUIS BENONI SHUDDMAGEN.

Reappointed.

ALPHEUS WILSON SMITH.

Reappointed.
A.B. (*West Virginia Univ.*) 1900, A.M. (*Harvard Univ.*) 1903, PH.D. (*Ibid.*) 1906. — Res. Gr. Stud., 1902-06. — Student of Physics at this University.
Instructor in Physics, Haverford College.

WILLIAM BELL CARTMEL.

S.B. (*Case School of Applied Science, O.*) 1900, A.M. (*Univ. of Nebraska*) 1902.
Student of Physics at this University.

1905-06.

1906-07.

South End House Fellowship (1900).

JOHN DANIELS.

Reappointed.

A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903-06. — Student of Sociology, at this University.

Corresponding Secretary, Congo Reform Association.

EUGENE LLOYD SHELDON.

A.B. 1906.

Student of Sociology at this University.

Charles Eliot Norton Fellowship (1900).

JAMES SAMUEL MARTIN.

A.B. (*Washington Univ., Mo.*) 1904, A.M. (*Harvard Univ.*) 1905. — Res. Gr. Stud., 1904-06; Non-Res. Stud., 1905-06. — Student of Classical Archaeology, in Athens. Continuing his studies at Athens.

KENDALL KERFOOT SMITH.

A.B. 1904, A.M. 1906. — Res. Gr. Stud., 1904-06. — Assistant in Fine Arts, 1904-06. — Charles Haven Goodwin Scholar, 1905-06. Student of Classical Archaeology, in Athens.

Edward Austin Fellowships (1900).

ARTHUR MANGUN BANTA.

A.B. (*Indiana Univ.*) 1903, A.M. (*ibid.*) 1904. — Res. Gr. Stud., 1905-06. — Student of Zoölogy, at this University.

Austin Teaching Fellow in Zoölogy at this University.

LAWRENCE MARTIN.

A.B. (*Cornell Univ., N.Y.*) 1904. — Student of Geology at this University. Instructor in Physiography, University of Wisconsin.

CLARENCE PERKINS.

A.B. (*Syracuse Univ., N.Y.*) 1901, A.M. (*Harvard Univ.*) 1904. — Res. Gr. Stud., 1903-06. — Thayer Scholar, 1904-05. — Student of History at this University. Continuing his studies at London, as Ozias Goodwin Memorial Fellow.

CHARLES IRVING WOOD.

A.B. (*Williams Coll.*) 1903, A.M. (*Harvard Univ.*) 1904. — Res. Gr. Stud., 1903-06. — Shattuck Scholar, 1904-06. — Student of German at this University.

Present occupation and address unknown.

JOSEPH WARREN BEACH.

A.B. (*Univ. of Minnesota*) 1900, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901-02 and 1904-06. — Shattuck Scholar, 1906-06.

Student of English at this University.

WILLIAM OSCAR SCROGGS.

(See Ozias Goodwin Memorial Fellowship, 1906-06.)

RALPH EDWARD SHELDON.

A.B. (*Cornell Univ., N.Y.*) 1904, A.M. (*ibid.*) 1905.

Student of Zoölogy at this University.

KARL YOUNG.

A.B. (*Univ. of Michigan*) 1901, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901-03 and 1905-06.

Student of English at this University.

Nelson Robinson Jr. Fellowship (1902).

(Not assigned.)

ALEXANDER EDWARD HOYLE.

A.B. 1902, A.M. 1903, S.B. 1904. — Res. Gr. Stud., 1902-03.

Student of Architecture, in Europe.

Fellowship of the Cercle Français de l'Université Harvard (1903).

MÉDÉRIC TOURNEUR.

B.-ès-lettres (*Univ. of Caen, France*) 1898, Lic.-ès-lettres (*ibid.*) 1900, Diplôme d'études supérieures (*Univ. of Paris, France*) 1902, Agrégé d'histoire et de géographie (*ibid.*) 1905. — Student of Ancient History and Archaeology at this University.

Present occupation and address unknown.

EDMOND JEAN EGGELI.

B.-ès-lettres (*Univ. of Lyons, France*) 1899, Lic.-ès-lettres (*Univ. of Paris, France*) 1902, Agrégé-des-lettres (*ibid.*) 1906. Student of Comparative Literature at this University.

Julia Amory Appleton Fellowship (1904).

HARRY EDWARD WARREN.

S.B. 1904, A.M. 1905. — Res. Gr. Stud., 1904-06. — Non-Res. Stud., 1905-06. — Austin Scholar in Architecture, 1904-06. — Student of Architecture, in Rome.

Continuing his studies in Europe, as Julia Amory Appleton Fellow.

HARRY EDWARD WARREN.

Reappointed.

1905-06.

1906-07.

Edward William Hooper Fellowship (1905).

(There are two appointments on this foundation for the current year.)

ELLSWORTH HUNTINGTON.A.B. (*Beloit Coll., Wis.*) 1897, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901-03. — Townsend Scholar, 1901-02; Thayer Scholar, 1902-03.

Now preparing for publication the results of his geographical explorations in Central Asia.

JOHN TUCKER MURRAY.A.B. (*Dalhousie Univ., N.S.*) 1897, A.B. (*Harvard Univ.*) 1899, A.M. (*ibid.*) 1900. — Res. Gr. Stud., 1899-1900 and 1904-06. — George and Martha Derby Scholar, 1904-06. — Instructor in English, 1905-06.

Student of English, at London.

Francis Parkman Fellowship (1906).**ABBOTT PAYSON USHER.**

A.B. 1904, A.M. 1905. — Res. Gr. Stud., 1904-06. — Assistant in Government, 1905-06. Student of History, at Paris.

The Graduate School of Arts and Sciences now has an adequate supply of fellowships, both for resident and for non-resident study. Furthermore, the experience of the past indicates that their number is likely to continue to increase at a rate fairly commensurate with the needs of the School. The present and pressing want of the School is a very large addition to the provision of scholarships, and particularly of small scholarships. A comparatively slight margin of expense annually turns from us to other institutions a large number of Graduate students of marked ability and most earnest purpose, whose connection with Harvard would be highly creditable and advantageous to the University. The number of cases of this kind which comes to the attention of the Secretary is very considerable; and there are presumably many others of which he knows nothing.

Table XVI gives the recommendations for the higher degrees in 1906 in arts, pure science, applied science, graduate professional studies, and ordinary professional studies. The granting of the degree of Master of Arts on ordinary professional studies is an anomaly, not contemplated in the Standing Votes under which the higher degrees were first established at Harvard, and without parallel in the usage of any other American university with developed graduate instruction. There appears to be no sufficient reason why the practice should be longer continued.

TABLE XVI. — RECOMMENDATIONS FOR THE HIGHER DEGREES IN ARTS, PURE SCIENCE, APPLIED SCIENCE, AND PROFESSIONAL STUDIES: 1906.

	A.M.	S.M.	Ph.D.	S.D.	Total.
Arts	76	..	27	..	103
Pure Science	21	3	17	..	41
Applied Science	5	..	..	..	5
Graduate Professional Studies . . .	5	..	2	..	7
Ordinary Professional Studies . . .	11	..	..	..	11
Total	118	3	46	..	167

The annual reception for the students of the School for the current year was held on Thursday evening, October 4, in the Faculty Room. The principal address was by Professor Kuno Francke, on "The Study of National Culture." Briefer addresses were made by Professor Kennelly, by Professor Eugen Kühnemann, of Breslau, Visiting Professor at this University, and by President Eliot.

JOHN HENRY WRIGHT, *Dean*.

THE DIVINITY SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR,—As Dean of the Divinity School I have the honor to present the following report for the year 1905–06.

The Dean was absent in Germany during the first term. With this exception the entire staff was in service throughout the year. Assistant Professor Hale, who has for eighteen years directed a large part of the instruction in Homiletics, and has endeared himself both to colleagues and students, withdrew from the service of the School at the end of the year, his resignation to take effect September 1, 1906.

The interchange of instruction between the Faculty of the School and the Faculty of Arts and Sciences indicates the extent of the contribution made by the Divinity School to the general work of the University. This interchange between the two Faculties in 1905–06 was as follows :—

Divinity students taking courses offered by the Faculty of Arts and Sciences, 1905–06 :—

Semitic	5 elections.
English	1 “
German	1 “
Economics	4 “
Philosophy	29 “
Social Ethics	4 “
Mathematics	1 “
	<hr/> 45

Non-Divinity students electing courses offered by the Divinity School, 1905–06 :—

Old Testament	52 elections.
New Testament	8 “
Church History	57 “
History of Religions	61 “
Theology	11 “
Ethics	158 “
	<hr/> 347 “

The registration for the year was 42, as against 43 in 1904-05. The 42 students enrolled in the year 1905-06 were distributed as follows :—

Resident Graduates	14
Senior Class	7
Middle Class	5
Junior Class	10
Special Students	6
Total	<u>42</u>

Twenty-five colleges were represented as follows :—

Amherst College	1	Leland Stanford Jr. University	1
Brown University	2	University of North Carolina	1
University of Buffalo	1	Oberlin College	2
University of Chicago	1	Ohio Wesleyan University	3
Cornell University	1	Queen's University	1
Dartmouth College	2	University of Rochester	1
Eureka College	2	Texas Christian University	1
Furman University	1	Trinity College, Conn.	1
Geneva College	1	Union College, Ky.	1
Hampden-Sidney College	1	Westminster College, Pa.	1
Harvard University	10	Williams College	1
Hiram College	1		<u>40</u>
Iowa College	1	Counted more than once	2
Kentucky University	1		<u>38</u>

Twelve theological seminaries were represented as follows :—

Allegheny Theological Seminary	1
Allegheny Reformed Presbyterian Theological Seminary	1
Andover Theological Seminary	2
College of the Bible, Ky.	1
Boston University	4
Chicago Theological Seminary	1
Concordia Theological Seminary	1
Episcopal Theological Seminary, Cambridge	1
Harvard University	3
Queen's University	1
Rochester Theological Seminary	1
Yale University	1
	<u>18</u>
Counted more than once	2
	<u>16</u>

Six members of the School received the degree of S. T. B., ten the degree of A. M., and two the degree of Ph.D.

The degree of A.M. was also conferred upon one person for work done in the Divinity School prior to 1900.

The Summer School of Theology was, by vote of the Faculty, put on a more permanent basis by an arrangement for three years: one session to be devoted to Problems of Theology, a second to Problems of Social Ethics, and a third to the History of Religion. The first session of the series—and the eighth session of the School—was held from July 9 to July 21, the forty-five lectures being devoted to the subject of Christian Theology in its Origin and Development.

The eight sessions of the School have had the following record of attendance:—

	Men.	Women.	Total.
1899	96	9	105
1900	52	2	54
1901	84	5	89
1902	74	4	78
1903	54	4	58
1904	46	1	47
1905	54	7	61
1906	59	9	68

The distribution by denomination, in the case of ministers attending in the eight years, was as follows:—

	Orthodox Congregational.	Unitarian Congregational.	Episcopalian.	Universalist.	Baptist.	Presbyterian.	Disciples.	Methodist.	Free Baptist.	Lutheran.	Christian Connection.	German Reformed.	Moravian.	Evangelical Association.	Dutch Reformed.	Jewish.
1899	27	17	16	14	5	3	..	..	..	..	..	..	..	..	..	..
1900	17	6	3	14	6	..	3	3	..	..	..	..	..	..	..	..
1901	28	12	11	14	5	2	..	10	1	1	..	..	..	..	..	..
1902	28	7	15	3	5	1	1	8	1	1	..	..	..	..	..	..
1903	21	4	10	5	..	5	3	1	1	..	1	1	1	..	..	..
1904	18	6	11	1	7	1	..	3	1	..	1	..	..	1	..	..
1905	7	4	14	3	5	1	5	9	..	1	3	..	..	..	1	..
1906	8	7	16	2	3	3	2	5	..	1	..	5	..	..	..	1
	149	63	96	56	36	16	14	39	4	3	3	9	1	1	1	1

The following is a list of the Courses of Instruction offered in the School in the year 1905-06. With each course is a statement of the number of students electing it from the Divinity School, the Graduate School of Arts and Sciences, Harvard College, the Lawrence Scientific School, and Radcliffe College. A list of the lectures of the Summer School is appended to the list of regular courses.

COURSES OF INSTRUCTION.

OLD TESTAMENT.

1. Professor LYON. — Hebrew. Davidson's Introductory Hebrew Grammar. Explanation of parts of Genesis and of the Book of Psalms. 1 Div., 8 Col.
2. Professor TOY. — Hebrew (second course). — Syntax. Interpretation of parts of the Prophets and the Poetical Books. Text-criticism.
1 Div., 1 Gr., 7 Col.
- 3 ¹/₂f. Dr. HAYNES. — Jewish Aramaic. Marti's Biblisch-Aramäische Grammatik. — Interpretation of parts of Ezra, Daniel, and the Targums. *Half-course*.
1 Div., 2 Col.
11. Dr. HAYNES. — Classical Aramaic (Syriac). 1 Div., 1 Gr., 1 Col.
4. Professor LYON. — History of Israel, political and social, till the capture of Jerusalem by the Romans. 1 Gr., 25 Col., 1 Sc.
5. Professor G. F. MOORE. — History of Jewish Literature from the earliest times to 200 A.D. 4 Div., 1 Col., 1 Rad.
6. Professor TOY. — History of the Hebrew Religion, with comparison of other Semitic religions. 8 Div., 2 Col.
8. Professor LYON. — Assyrian (second course). 1 Col.
20. Research courses. The instructors will arrange and supervise for any properly prepared student a line of special study on such topic as may be agreed on. 8 Div.

NEW TESTAMENT.

2. Professor ROPES. — Introduction to the Study of the New Testament. *First half-year*: The origin and early history of the New Testament writings. *Second half-year*: The teaching of Jesus Christ, and the theological and ethical ideas of the New Testament writers.
As full course, 5 Div., 1 Gr., 2 Col. As half-course, 5 Div., 2 Col.
3. Professor ROPES. — The Gospels of Matthew, Mark, and Luke.
2 Div., 1 Gr., 1 Col., 1 Rad.
- 4 ¹/₂f. Professor ROPES. — Problems in the Study of the Life of Christ. *Half-course*. 2 Div.
- 12 ³/₄f. Professor ROPES. — The Epistles of James, Peter, and Jude. *Half-course*. 1 Div.
- 15 ¹/₂f. Professor FENN. — The Theological Method of Jesus and Paul. *Half-course*. 4 Div.
20. Professor ROPES. — Advanced study and research. The instructor will arrange and supervise special work of competent advanced students on such topics of New Testament study as they may desire to undertake.
2 Div.

CHURCH HISTORY.

3. Professor EMERTON.—The Era of the Reformation in Europe, from the rise of Italian Humanism to the close of the Council of Trent, 1550 to 1568. 3 Div., 10 Gr., 7 Col.
4. Professor E. C. MOORE.—The Church since the Reformation.
As full course, 3 Div., 2 Gr., 9 Col., 1 Sc. As half-course, 2 Div., 25 Col.
5. Professor EMERTON.—History of Christian Thought, considered in its relation to the prevailing philosophy of each period from the earliest time to the Eighteenth Century. 5 Div., 1 Gr., 1 Col.
7. Professor E. C. MOORE.—History of Christian Literature until the Time of Augustine. 2 Div.
20. Professor EMERTON.—Advanced study and research. 1 Gr.

HISTORY OF RELIGIONS.

2. Professor G. F. MOORE.—History of Religions in Outline.
As full course, 6 Div., 29 Col. As half-course, 6 Div., 2 Gr., 28 Col.
- 4 ¹/₂f. Professor G. F. MOORE.—History of Judaism. *Half-course.*
4 Div., 1 Gr., 1 Col.

THEOLOGY.

- 1 ¹/₂f. Professor FENN.—Theism. *Half-course.* 6 Div., 2 Gr., 4 Col.
- 2 ³/₄f. Professor FENN.—Outlines of Systematic Theology. *Half-course.*
10 Div.
- 3 ¹/₂f. Professor FENN.—New England Theology. *Half-course.* 8 Div.
- 5 ³/₄f. Professor FENN.—The History and Philosophy of Christian Mysticism.
Half-course. 9 Div.
6. Professor E. C. MOORE.—The History of Christian Thought since Kant, including a discussion of the present state and tendencies of theological thought. 7 Div., 2 Gr., 3 Col.
20. Professor E. C. MOORE.—The Theology of Ritschl and of the Ritschlian School, upon the basis of the works of Ritschl, Herrmann, and Kaftan.
As full course, 1 Div. As half-course, 3 Div.

ETHICS.

- 1 ³/₄f. Professor PEABODY, assisted by Dr. ROGERS.—The Ethics of the Social Questions.—The Problems of Poor Relief, the Family, Temperance, and various phases of the Labor Question, in the light of ethical theory.—Lectures, special researches, and prescribed reading. *Half-course.*
11 Div., 5 Gr., 144 Col., 5 Sc.
- 20 ³/₄f. Professor PEABODY.—Seminary of Social Ethics.—Subject for the year: Religion and the Social Question. *Half-course.*
13 Div., 1 Gr., 3 Col.
- 20 ⁵/₈ ¹/₂f. Professor PEABODY.—The instructor will direct special researches of competent students in the Ethics of the Social Questions. *Half-course.*
1 Div.

HOMILETICS AND PASTORAL CARE.

- 1 *hf.* Asst. Professor HALE. — The Structure and Analysis of Sermons. *Half-course.* 4 Div.
2. Professors PEABODY, E. C. MOORE, and FENN, and Asst. Professor HALE. — Preaching. Each student prepares eight sermons during the year, of which some are preached before the class and criticized by students and instructor [in Appleton Chapel], and the rest are criticized by the instructor privately. Students in this course should already have taken Homiletics 1 or its equivalent. The course may be taken a second time with the permission of the instructor.
As full course, 4 Div. As half-course, 3 Div.
- 3 *hf.* Asst. Professor HALE. — The Minister as Pastor, and the Direction of Church Activities. *Half-course.* 1 Div.
- 5 *hf.* Asst. Professor HALE. — The Homiletical Use of the Bible. *Half-course.* 2 Div.
- 20 *hf.* Professor PEABODY. — Advanced study and research. *Half-course.* 1 Div.

ELOCUTION.

1. Mr. WILLARD. — Voice Training and the Elements of Form in Speaking. (Not counted for a degree.) 5 Div.
- 2 *hf.* Mr. WILLARD and Mr. GUNNISON. — Sermon Delivery, Scripture Reading, Oral Discussion. *Half-course.* 8 Div.

SUMMER SCHOOL OF THEOLOGY.

- Professor C. H. TOY. — Eight lectures: Scriptural Basis of Christian Belief.
- Professor A. C. MCGIFFERT. — Eight lectures: The Formative Period of Christian Thought.
- Professor EPHRAIM EMERTON. — Eight lectures: The Mediaeval Period.
- Professor E. C. MOORE. — Eight lectures: The Modern Period.
- Professor W. W. FENN. — Eight lectures: Constructive Principles in Christian Theology.
- Professor WILLIAM JAMES. — Five lectures: Religious Philosophy and Individualism.

The Librarian of the School reports as follows on the condition of the Library for the ten months ending July 31, 1906: —

There were added to the Library 326 volumes and 12 pamphlets by purchase, 748 volumes and 841 pamphlets by gift. August 1, 1906, there were in the Library 35,958 volumes and 9,681 pamphlets. During the ten months 1,979 titles were catalogued in the author catalogue and 570 titles in the subject catalogue. There were borrowed from the stack for home use 1,476 volumes, from the stack for hall use 668 volumes, from the reserved books for overnight use 898 volumes.

FRANCIS G. PEABODY, *Dean.*

THE LAW SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—I have the honor of presenting my report upon the Law School for the academic year 1905-06.

The table below exhibits the growth of the School during the last thirty-seven years, in the number of students, the number and

Year.	Whole No. of Students.	Total of College Graduates.	Harvard Graduates.	Graduates of other Colleges.	Non-Graduates.	Per cent. of College Graduates.	No. of Colleges represented.
1870-71	165	77	27	50	88	47	27
1871-72	138	70	34	36	68	51	25
1872-73	117	66	34	32	51	56	25
1873-74	141	86	49	37	55	61	25
1874-75	144	82	63	19	62	57	18
1875-76	173	93	60	33	80	54	25
1876-77	199	116	74	42	83	58	30
1877-78	196	121	80	41	75	62	30
1878-79	169	109	71	38	60	64	24
1879-80	177	118	90	28	59	66	20
1880-81	161	112	82	30	49	70	19
1881-82	161	99	66	33	62	61	22
1882-83	138	93	58	35	45	67	32
1883-84	150	105	75	30	45	70	25
1884-85	156	122	85	37	34	78	31
1885-86	158	122	83	39	36	77	29
1886-87	188	143	88	55	45	76	34
1887-88	225	158	102	56	67	70	32
1888-89	225	158	105	53	67	70	32
1889-90	262	189	122	67	73	72	41
1890-91	285	200	135	65	85	70	38
1891-92	370	257	140	117	113	69	48
1892-93	405	266	132	134	139	66	54
1893-94	367	279	129	150	88	76	56
1894-95	413	310	139	171	103	75	74
1895-96	475	380	171	209	95	80	82
1896-97	490	408	186	222	82	83	82
1897-98	551	490	229	261	61	89	77
1898-99	564	503	212	291	61	89	78
1899-00	613	557	236	321	56	91	67
1900-01	655	605	252	353	50	92	83
1901-02	633	584	247	337	49	92	92
1902-03	644	600	241	359	44	93	94
1903-04	743	695	272	423	48	94	111
1904-05	766	711	286	425	55*	93	114
1905-06	727	716	295	421	11	98	118
1906-07	700	691	258*	433	9	99	124

* 28 Harvard Seniors who have completed the full College course, but have not received their diplomas, are reckoned as graduates. Prior to 1905-06 Harvard Seniors were not reckoned as graduates but as non-graduates.

Instructors.	Studies and Text-books.	Exercises per week.	Number of students examined.
First Year.			
Prof. Williston	Contracts. Williston's Cases on Contracts	3	250
Ast. Prof. Wyman	Property. Gray's Cases on Property, vols. 1, 2	2	245
Prof. Wambaugh.	Torts. Cases on Torts: Ames, vol. 1 (2d ed.), Smith, vol. 2	2	246
Prof. Smith	Criminal Law and Procedure. Beale's Cases on Criminal Law	2	235
Prof. Beale	Civil Procedure at Common Law. Ames's Cases on Pleading	1	290
Prof. Ames			
Second Year.			
Prof. Wambaugh	Agency. Wambaugh's Cases on Agency	2	31
Prof. Brannan	Bills of Exchange and Promissory Notes. Ames's Cases on Bills and Notes	2	15
Prof. Gray	Evidence. Thayer's Cases on Evidence (2d ed.)	2	231
Ast. Prof. Warren	Jurisdiction and Procedure in Equity. Ames's Cases in Equity Jurisdiction, vol. 1	2	238
Ast. Prof. Warren	Property. Gray's Cases on Property, vols. 3, 4	2	280
Prof. Williston	Sales of Personal Property. Williston's Cases on Sales	2	143
Prof. Ames	Trusts. Ames's Cases on Trusts (2d ed.)	2	219
Mr. Dutch	Admiralty. Ames's Cases on Admiralty	1	10
Prof. Williston	Bankruptcy. Williston's Cases on Bankruptcy	1	1
Ast. Prof. Wyman	Carriers. Beale and Wyman's Cases on Public Service Companies	1	9
Prof. Brannan	Damages. Beale's Cases on Damages	1	2
Prof. Smith	Persons. Smith's Cases on Persons	1	9
Prof. Ames	Quasi-Contracts. Scott's Cases on Quasi-Contracts	1	4

Third Year.

Prof. Beale	Conflict of Laws. Beale's Cases on the Conflict of Laws	2	201
Prof. Wambaugh	Constitutional Law. Thayer's Cases on Constitutional Law	2	25
Asst. Prof. Warren	Corporations. Smith's Cases on Private Corporations (2d ed.). Smith's Cases on Municipal Corporations	2	227
Prof. Brannan	Partnership. Ames's Cases on Partnership	2	21
Prof. Gray	Property. Gray's Cases on Property, vols. 5, 6	2	104
Asst. Prof. Wyman	Suretyship and Mortgage. Ames's Cases on Suretyship. Wyman's Cases on Mortgage	2	153
Prof. Wambaugh	Agency. Wambaugh's Cases on Agency	2	52
Prof. Brannan	Bills of Exchange and Promissory Notes. Ames's Cases on Bills and Notes	2	150
Prof. Gray	Evidence. Thayer's Cases on Evidence	2	7
Asst. Prof. Warren	Jurisdiction and Procedure in Equity. Ames's Cases in Equity Jurisdiction, vol. 1	2	14
Asst. Prof. Warren	Property II. Gray's Cases on Property, vols. 3, 4	2	11
Prof. Williston	Sales of Personal Property. Williston's Cases on Sales	2	18
Prof. Ames	Trusts. Ames's Cases on Trusts (2d ed.)	2	16
Mr. Dutch	Admiralty. Ames's Cases on Admiralty	1	28
Prof. Williston	Bankruptcy. Williston's Cases on Bankruptcy	1	27
Asst. Prof. Wyman	Carriers. Beale and Wyman's Cases on Public Service Companies	1	44
Prof. Brannan	Damages. Beale's Cases on Damages	1	14
Prof. Ames	Equity III. Ames's Cases in Equity Jurisdiction, vol. 2	1	180
Prof. Smith	Persons. Smith's Cases on Persons	1	29
Prof. Ames	Quasi-Contracts. Scott's Cases on Quasi-Contracts	1	64

percentage of college graduates, and in the number of colleges represented by their graduates. The figures for the current year will be slightly increased by later entries.

The table on pages 164, 165 gives the courses of study and instruction during the year, the text-books used, the number of exercises per week in each course, and the number of students who offered themselves for examination in each course at the end of the year.

There are in the School to-day 72 fewer graduates of Harvard College than were on our books January 1, 1905. On the other hand, the number of graduates of other colleges is larger by 12 than two years ago. It is evident that Harvard graduates are responding to the growing demand for college-bred men by the managers of large business enterprises.

During the twelve months from August 1, 1905, to August 1, 1906, 9,189 bound volumes and 1,682 pamphlets were added to the library. The library contained, August 1, 1906, about 96,545 volumes and about 10,600 pamphlets.

The collection of portraits of judges and lawyers has been increased, during the past year, by four engravings, two etchings and six photographs. The portraits now hanging (or ready to hang) on the walls of Austin Hall number 410, namely, 23 oil paintings, 259 engravings, 25 etchings, 78 photographs, 1 water-color, 2 pencil sketches, 19 lithographs, and 3 bas reliefs. There are also 54 trial scenes and views of law buildings.

An interesting collection of colored cartoons of judges and lawyers has been made, mostly during the past year. It numbers 177.

An interesting and valuable addition to our books came from the library of the late James M. Barnard, who, for many years, manifested an interest in the School. In his will he suggested that his law books and portraits of lawyers be given to us, but left the disposition of them wholly in the hands of his wife. Mrs. Barnard carried out this suggestion, and, under a power in the will, generously made a further gift of \$2,000 for the purchase of books, preferably works on International Law, a department of the library inadequately equipped. It seemed fitting that the book-plate in the books coming from Mr. Barnard's library and those bought with the \$2,000 should indicate that they were the joint gift of James Munson Barnard and Augusta Barnard.

Another interesting gift should be mentioned. Many years ago, when the resources of the School were limited, Professor Langdell deposited temporarily in the library 90 volumes of the most costly

English reports. Mrs. Langdell has generously made this deposit permanent.

Miss Frances A. L. Haven, in memory of James Coolidge Carter, the distinguished lawyer, and the long-time friend of her father's family, gave the School \$12,000 to establish the James Coolidge Carter Loan Fund, the income of which is to be loaned to students of limited means and of exceptional character and ability. As this fund will steadily increase by the payment of interest and the repayment of loans, it is provided that the excess of income over \$1,000 may be used for the purchase of books, preferably for those relating to the subjects taught by the holder of the new professorship in the Law School, created by the bequest of Mr. Carter, and to be known as the Carter Professorship. Miss Haven's gift will be as beneficent in its results as it is interesting in its associations.

By the gift of \$3,500 the School has for the first time a scholarship wholly its own. This scholarship, to be called the George Fisher scholarship, was established by the generosity of Mrs. Austin C. Wellington, in memory and in honor of her father, the late George Fisher, who was a student in this School in the year 1853-54.

Langdell Hall is rising rapidly and promises to be a worthy memorial of Professor Langdell. Although, to our great regret, it was not given to him to see the completion of the new building, it is a great satisfaction to us that he lived to know that the ground had been broken for this monument to his great achievements.

JAMES BARR AMES, *Dean*.

THE FACULTY OF MEDICINE.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR, — As Dean of the Faculty of Medicine I have the honor to submit the following report for the academic year 1905-06.

For some time the question of allowing special students to enter the School has been under more or less discussion, and the Faculty has decided to open all courses, including laboratory courses, to persons not candidates for the degree of Doctor of Medicine; that is to say, to special students and to students in other Departments of the University.

A communication from the Corporation, requesting the advice of the Faculty of Medicine in regard to a petition to admit women to the Medical School, was carefully considered, and it was decided that it is impracticable, at present, to admit women to the regular curriculum of the Medical Department of the University.

A clinical laboratory has been established in the Division of Medicine for the special training of students and practitioners in the chemical, microscopical, and bacteriological methods employed in the practice of medicine. The Instructor in Chemistry was transferred from the Division of Chemistry to that of Medicine.

During the year 115 men were recommended to the Corporation for degrees as follows :—

Medical School . .	{	For the degree of M.D. (February)	12
		“ “ “ (June)	49
		“ “ “ <i>cum laude</i> (June) . .	20
Dental School . .	{	For the degree of D.M.D. (February)	0
		“ “ “ (June)	30
		“ “ “ <i>cum laude</i> (June) . .	4
Total			115

With a view to beginning the work of the School more promptly students were required this year to make their choice of electives the first day of the term.

In my last report, for the year 1904-05, I spoke of the somewhat surprising result of the choice of studies by the fourth-year men of 1905-06, when the new elective curriculum for the fourth year first went into effect, and showed by a comparative table that the students chose to continue practically the same work that had been previously

required; that they had not elected specialties or laboratory courses to any extent, but preferred rather to continue their training for general practice by the pursuit of general clinical work. In other words, the fourth class believed for the most part that it was too early in their education to begin to specialize.

This attitude is still more forcibly shown in the choice of work by the sixty-seven men of the fourth class of 1906-07, as shown in the following table:—

NUMBER OF HALF-COURSES ELECTED FOR 1906-07.

Anatomy	42
Comparative Anatomy	0
Embryology	0
Histology	0
Physiology*	8
Comparative Physiology	0
Biochemistry	2
Bacteriology	0
Pathology	6
Neuropathology	3
Hygiene	6
Clinical Medicine	108
Theory and Practice†	28
Clinical Pathology	2
Pediatrics	72
Clinical Surgical Pathology	7
Surgery	118
Genito-Urinary Surgery	6
Orthopedics	16
Surgical Pathology	2
Obstetrics	59
Gynaecology	19
Dermatology and Syphilis	8
Neurology and Psychiatry	19
Ophthalmology	0
Otology	1
Laryngology	9
	<hr/> 536

Inspection of this table shows that of 536 half-courses, taken by 67 men, 422, or nearly 80%, were in the fundamental subjects of Anatomy, General Medicine and Surgery, Pediatrics, and Obstetrics. Only one man chose to devote his whole year to one subject, Physiology. Few men took more than one half-course in a single subject, except in Clinical Medicine and General Surgery.

* All taken by one man.

† Class limited to this number.

From the experience of the last two years it may be fairly concluded that our students believe four years not too long a time to devote for the most part to preparation for general hospital work and subsequent general practice, and that specialized work in narrow fields had best be left for graduate study.

At the December meeting of the Faculty Drs. J. C. Warren, W. L. Richardson, and H. C. Ernst were appointed with full powers to act in the matter of the dedication of the new buildings of the Medical School in consultation with the Corporation.

WILLIAM L. RICHARDSON, *Dean*.

THE MEDICAL SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR,— As Dean of the Medical School I have the honor to submit the following report for the academic year 1905–06.

The Administrative Board was constituted as follows : Drs. W. L. Richardson, J. C. Warren, F. C. Shattuck, W. F. Whitney, C. M. Green, C. Harrington, F. B. Mallory, W. B. Cannon, and J. Warren.

By invitation, Baron S. Suzuki, Surgeon General, gave an address to the students on the work of the Japanese Medical Corps in the late war.

Medical Director R. A. Marmion, U. S. N., President of the Naval Medical Examining Board, also gave an address on the inducements which the Naval Medical Service now holds out to young men under thirty years of age.

Building.— No changes were made in the building during the past year, owing to the fact that preparation was being made to move into the new buildings, on Longwood Avenue, early in the summer.

Anatomy.— During the past year the Anatomical Department has conducted the courses in accordance with the plan offered. It is proper to state, however, that the Professor and every teacher under him consider the time allotted entirely inadequate. A very great deal of work has fallen to the share of the Demonstrator, who has conducted the dissecting courses of the fourth year. The Professor, besides being engaged in original work in observing variations, especially those of the spine and of the hand and foot, has devoted much time to the Museum. The collection of variations is assuming a very satisfactory appearance.

The following list includes such publications by the members of the department as can with any propriety be considered to have a relation to anatomical work :—

Numerical variation in the human spine, with a statement concerning priority. By Professor THOMAS DWIGHT. *Anatomischer Anzeiger*, Bd. XXVII, Nos. 1 and 2, 1906.

The clinical significance of variations of wrist and ankle. By Professor THOMAS DWIGHT. *Journal of the American Medical Association*, Vol. XLVII, July 28, 1906. Read at the June meeting, in Boston.

The development of the paraphysis and the pineal region in *necturus maculatus*. By Dr. JOHN WARREN. *The American Journal of Anatomy*, Vol. V, No. 1, December, 1905.

Referat über die Anatomische Literatur Amerikas für die Jahre 1900 und 1901. By Dr. JOHN WARREN. *Ergebnisse der Anatomie und Entwicklungsgeschichte*, Bd. XIV, 1905.

A case of congenital occlusion of the small intestine. By Dr. LINCOLN DAVIS, in conjunction with Dr. OSCAR RICHARDSON. *Boston Medical and Surgical Journal*, April 19, 1906.

A direct method of correcting deformity of the nasal bones. By Dr. H. P. MOSHER. *The Laryngoscope*, January, 1906.

The use of the X-ray in sinus disease. By Dr. H. P. MOSHER. *The Laryngoscope*, February, 1906.

Inflammation of the frontal sinus. By Dr. H. P. MOSHER. *Boston Medical and Surgical Journal*, June 7, 1906.

Retroperitoneal perineal lipomata. A study of large retroperitoneal lipomata of perineal origin. The technique of their removal based on anatomical studies, with the report of a case. By Dr. R. G. WADSWORTH. *Annals of Surgery*, July, 1906.

The muscle-splitting in McBurney incision in acute appendicitis: the course and results of seventy-five consecutive cases. By Dr. D. D. SCANNELL. *Boston Medical and Surgical Journal*, December 28, 1905.

Two cases of anatomical anomaly of the large intestine. By Dr. SAMUEL ROBINSON. *Boston Medical and Surgical Journal*, December 28, 1905.

Comparative Anatomy. — During the past year Dr. Minot was appointed James Stillman Professor of Comparative Anatomy and placed in charge both of the new work to be undertaken for that professorship and of the instruction in Histology and Embryology which hitherto formed a separate department. Ample room in the new laboratories for the new work is provided, but as yet nothing further has been attempted in Comparative Anatomy. The usual instruction in Histology and Embryology has been carried on. The embryological collection has been increased by 163 new series of sections of embryos, making the total number 1119 series. The additions have comprised a few human embryos and a large number of turtle embryos, *Chrysemys marginata*. For the turtle material we are indebted to Dr. Bennett M. Allen of the University of Wisconsin, by whom the specimens were collected.

The following publications have been issued : —

Normal plates of the development of the rabbit (*Lepus cuniculus*, L.). By Professor C. S. MINOT and Dr. EWING TAYLOR. *Normentafeln zur Entwicklungsgeschichte der Wirbelthiere*, Heft V, 4to, 3 pts., 98 pp.

The relations of embryology to medical progress. Oration before the Maine State Medical Society. By Professor C. S. MINOT. *Popular Science Monthly*, Vol. LXIX, pp. 5-20.

The fifth and sixth aortic arches and the related pharyngeal pouches in the rabbit and pig. By Dr. F. T. LEWIS. *Anatomischer Anzeiger*, Vol. XXVIII, 1906, pp. 506-513.

The mixed cerebral nerves in mammals. By Dr. F. T. LEWIS. *Journal of Comparative Neurology*, Vol. XVI, 1906, pp. 177-182.

Stöhr's Histology, arranged upon an embryological basis by Dr. F. T. LEWIS. From the twelfth German edition by Dr. PHILIPP STÖHR. Sixth American edition, with 460 illustrations. ix + 484 pp. Philadelphia, P. Blakiston's Son & Co.

Microscopic evidences of absorption in the large intestine. By Dr. J. L. BREMER. *Journal of Medical Research*, Vol. XV, 1906, pp. 89-96.

Description of a 4 mm. human embryo. By Dr. J. L. BREMER. *American Journal of Anatomy*, Vol. V, 1906, pp. 459-480.

Physiology. — There have been published the following papers containing investigations by the laboratory staff : —

Studies in the physiology of muscle: I. Observations on the tonus of heart muscle. By Professor W. T. PORTER. *The American Journal of Physiology*, 1905-06, Vol. XV, pp. 1-14.

The relation of tonus contraction to conduction in smooth muscle. By Professor W. T. PORTER and Messrs. C. H. LAWRENCE, Jr., and L. H. NEWBURGH. *The American Journal of Physiology*, 1905-06, Vol. XV, pp. 29-30.

Recent advances in the physiology of the digestive organs bearing on medicine and surgery. By Assistant Professor W. B. CANNON. *American Journal of the Medical Sciences*, 1906, Vol. CXXXI, pp. 563-578.

A research on the motor activities of the alimentary canal after section of the splanchnic and vagus nerves. By Assistant Professor W. B. CANNON. Is ready for publication.

During a part of the summer Mr. Donald Macomber worked with Assistant Professor W. B. Cannon on a reflex mechanism of the central nervous system.

The following have also been published : —

An introduction to physiology. By Professor W. T. PORTER. Second edition, revised and enlarged. J. B. Lippincott Co. 1906. 586 pp.

Physiology at Harvard. By Professor W. T. PORTER. Fifth edition. Cambridge, University Press. 124 pp.

Biological Chemistry. — The Department of Biological Chemistry has been able to add materially to its outfit of apparatus and store of chemicals. These additions, made possible by the generosity of two benefactors, though greatly increasing the usefulness of the laboratory, are but a part of what is needed. Various special machines, like centrifuges, are still required to facilitate the ordinary processes of biochemical research, and, in order that delays of months may not occur in the progress of researches, a larger stock of chemicals not to be had in America is essential.

During the past year the department has made an arrangement with the Division of Chemistry of the Faculty of Arts and Sciences whereby the degrees of Ph.D. and S.D. in Chemistry, in the subject of Biological Chemistry, may be granted by the Faculty of Arts and Sciences for work done in part in the Medical School under the direction of the instructors of the Department of Biological Chemistry. It is hoped that this new arrangement may materially extend the usefulness and productiveness of the laboratory, and may lead to a closer relationship between the two chemical laboratories of the University.

Various researches have been actively pursued during the whole of the past year. The following papers have been published from the laboratory or by members of the department : —

The cleavage products of vitellin (from the Rockefeller Institute for Medical Research). By Drs. P. A. LEVENE and C. L. ALSBERG. *Journal of Biological Chemistry*, Vol. II, p. 27, 1906.

Equilibrium in solutions of phosphates. By Dr. L. J. HENDERSON. *American Journal of Physiology*, Vol. XV, p. 257, 1906.

Note on equilibrium in solutions of phosphates. By Dr. L. J. HENDERSON. *American Journal of Physiology*, Vol. XVI, p. 188, 1906.

Physical properties of the antiseptic (appended to article by Dr. F. H. VERHOEFF). By Dr. L. J. HENDERSON. *Journal of the American Medical Association*, Vol. XLVI, p. 272, 1906.

The composition of bone in osteomalacia. By Mr. F. H. MCCRUDDEN. *American Journal of Physiology*, Vol. XVII, p. 32, 1906.

The effect of castration upon the metabolism in osteomalacia. By Mr. F. H. MCCRUDDEN. *American Journal of Physiology*, November, 1906.

The following investigations have been completed, but are unpublished : —

The hydrolysis of gelatine with acids of varying concentrations (in the Rockefeller Institute for Medical Research and this Laboratory). By Drs. P. A. LEVENE and C. L. ALSBERG.

The elimination of the cooling correction in experiments with the Berthelot calorimetric bomb (in the Chemical Laboratory of Harvard College). By Professor T. W. RICHARDS, Dr. L. J. HENDERSON, and Mr. H. L. FREVERT.

The ratio of the heats of combustion of cane sugar and benzol (in the Chemical Laboratory of Harvard College). By Professor T. W. RICHARDS, Dr. L. J. HENDERSON, and Mr. H. L. FREVERT.

The influence of position isomerism upon heats of combustion. By Dr. L. J. HENDERSON.

New uses of phosphates in culture media. By Dr. L. J. HENDERSON and Mr. H. B. WEBSTER.

The compressibility of muscle and of gelatine (in the Chemical Laboratory of Harvard College and this Laboratory). By Dr. L. J. HENDERSON and Mr. F. N. BRINK.

The metabolism in chronic joint disease. By Dr. W. TILESTON.

The retention of chlorides in cardiac and renal edema (in the II Medizinischen Klinik, Munich, and this Laboratory). By Dr. H. F. HERTZ.

The excretion of phosphates in experimental acidosis. By Mr. R. FITZ.

Bacteriology. — Dr. Ernst spent all the time possible in the study of the best methods for the application of the ultra-violet apparatus of Zeiss to biological problems; at first with the assistance of Dr. S. B. Wolbach, and throughout the winter with the assistance and encouragement of Professor W. C. Sabine; the interest of the latter was a most stimulating factor in face of the difficulties encountered. A preliminary paper with seven plates was published under the title of "Ultra-violet Photomicrography," in *The Journal of Medical Research*, Vol. XIV.

Much time was also consumed in editing a history of the School, authorized by the Faculty.

Dr. E. N. Tobey, candidate for the Master's Degree in the Graduate School, completed an exhaustive summary of the literature and a new classification of the Trypanosomata, which was published in *The Journal of Medical Research*, Vol. XV, No. 1, pp. 117-146. This classification is adopted by Dr. J. H. Todd, of the Liverpool School of Tropical Medicine, in his forthcoming account of the expedition to the Congo to study sleeping sickness.

Dr. Tobey published a second article on "Trypanosomiasis of the Newt," based on research done in the laboratory, in *The Journal of Medical Research*, Vol. XV, No. 1, p. 147.

L. Frothingham, M.D.V., has continued his work upon rabies, and has a large amount of material from more than two hundred animals that there has not yet been time to study. He has also made a number of permanent gelatine mounts of the tissues from various infections, especially of tuberculosis and glanders. He has published the following papers:—

Rabies. By L. FROTHINGHAM, M.D.V. *The American Journal of Public Hygiene and Journal of the Massachusetts Association of Boards of Health*, Vol. XV, No. 1.

The rapid diagnosis of rabies, with three plates. By L. FROTHINGHAM, M.D.V. *The Journal of Medical Research*, Vol. XIV, No. 3, p. 471.

Mr. L. R. Fulton, candidate for the Master's Degree in the Graduate School, worked throughout the year, first in the required course, and then on special lines concerned with plant bacteriology. He completed a monograph on the biology of an undescribed soil organism, which is about to be published.

A function of the laboratory that has been increasing in importance for some time is the supplying of other teaching establishments with cultures and material for instruction, and hospitals and private individuals with cultures for diagnostic purposes. During the past year over two hundred cultures have been furnished to more than fifty institutions and individuals.

Pathology.—Several changes have taken place during the past year in the personnel of the department. At the end of the first half-year Dr. W. R. Brinkerhoff resigned his instructorship to accept a government position as Director of the Leprosy Station at Molokai. Dr. S. Burt Wolbach was advanced from the rank of assistant to that of instructor. These changes, and others equally numerous, occurring at the Boston City Hospital laboratory (which is under the direction of members of the School staff), have interfered seriously with the amount of research work usually produced by the department.

During the year much time has had to be devoted to the formation of a teaching collection of gelatine mounted Kaiserling preparations for class purposes.

Neuropathology and Surgical Pathology have also been busy with the same problem. The collections will be stored in rooms specially prepared for them in the pathological building.

The Department of Pathology has suffered greatly during the past two or three years from a lack of fresh pathological material for demonstration purposes. In the past a reasonably sufficient amount was obtained from the hospitals of Boston, but recently this has been reduced to almost nothing. Two causes have led to this result. The trustees of the Boston City Hospital have ruled that all organs must be returned immediately after an autopsy to the body from which they were removed. Practically the same rule is in force at the Long Island Hospital. The clinical men at the Massachusetts General Hospital demand that all autopsy material be saved during each week for a demonstration before internes and students on Friday afternoon. This material, after being kept so long and after being frozen and thawed out twice, is almost valueless when received at the School.

This cutting off of the supply of fresh material from the three largest sources practically reduces the department to the few specimens received from private autopsies, a source which is totally inadequate. As a result of this limited amount of fresh material, the department has been forced to depend, to a large extent, on its own supply of Kaiserling preparations. Such preparations can never supplant the use of fresh material which the students can themselves handle and dissect.

The following publications from members of the department or from laboratories under their direction have appeared between October 1, 1905, and October 1, 1906:—

A case of blastomycosis: the results of culture and inoculation experiments. By Drs. J. T. BOWEN and S. B. WOLBACH. *The Journal of Medical Research*, Vol. X, No. 1. July, 1906.

Cystic aplasia of the cerebral hemispheres in an idiot child. By Drs. W. N. BULLARD and E. E. SOUTHARD. *The Journal of Medical Research*, Vol. XIV, p. 481. January, 1906.

A case of diffuse gliosis of the cerebral white matter in a child. By Drs. W. N. BULLARD and E. E. SOUTHARD. *The Journal of Nervous and Mental Disease*, Vol. XXXIII, p. 3. March, 1906.

A case of multiple ulcers of the gall bladder. By Drs. E. A. LOCKE and S. B. WOLBACH. *The Boston Medical and Surgical Journal*, Vol. CLIX, No. 25. June, 1906.

The present needs of the Harvard Medical School. By Professor F. B. MALLORY. *Science*, September, 1906.

Demonstration of the spirochaeta pallida of syphilis, with description of a rapid method of staining. By Dr. T. J. MANAHAN. *The Boston Medical and Surgical Journal*, Vol. CLIV, p. 264.

Cerebral seizures with suboccipital pain: miliary cerebral and gross vertebral aneurisms. By Drs. W. D. RUSTON and E. E. SOUTHARD. *The Boston Medical and Surgical Journal*, Vol. CLIV, p. 12. March, 1905.

A case of cholesterin stones in the brain and cord. By Dr. E. E. SOUTHARD. *The Journal of the American Medical Association*, Vol. XLV, p. 23. December, 1905.

A case of Potts disease in the monkey. By Dr. E. E. SOUTHARD. *The Journal of Medical Research*, Vol. XIV, p. 393. January, 1906.

A case of glioma of the frontal lobe with invasion of the opposite hemisphere. By Dr. E. E. SOUTHARD. *The American Journal of Insanity*, Vol. LXII, No. 2. July, 1906.

A study of brain infections with the pneumococcus. By Drs. E. E. SOUTHARD and C. W. KEENE. *The Journal of the American Medical Association*, Vol. XLVI, p. 1. January, 1906.

Origin and nature of the blood plates. By Dr. J. H. WRIGHT. *The Boston Medical and Surgical Journal*, Vol. CLIV, p. 643.

A method for the differential staining of blood plates. By Dr. J. H. WRIGHT. *The Boston Medical and Surgical Journal*, Vol. CLV, p. 30.

Comparative Pathology.—During the past year the work of this department was carried on as in the preceding year. During the summer of 1906 the quarters assigned to it in the new buildings, comprising nearly one half of the north wing of the building designated Hygiene and Pharmacology, were occupied. Thus for the first time since its establishment ten years ago is this department housed with the other laboratory departments. The additional munificent gift of seventy-five thousand dollars, recently presented by Mr. George F. Fabyan, brings the endowment of this chair to the sum of two hundred thousand dollars, and will make it possible to conduct the new laboratory on a progressive basis, both as regards teaching and research, without encroaching upon the other funds of the Medical School. There is still needed a suitable animal house or stable for the study of diseases of the larger domestic animals.

In addition to the work entailed by two courses of instruction in the first half-year, investigations have been carried on in a variety of subjects. As is usual in the study of diseases, the choice of these subjects was dictated largely by opportunity and accessibility of material for work. From among them may be mentioned immunity in tuberculosis, transmission of toxin immunity from parents to young, diseases in horses undergoing injections of diphtheria toxin, the resistance of red blood corpuscles, and the bacteriology of oysters. Four manuscripts are nearly ready for publication. Only two papers have appeared in the course of the year:—

The parasitism of the tubercle bacillus and its bearing on infection and immunity. (One of the Harvey Society lectures for 1906.) By Professor THEOBALD SMITH. *The Journal of the American Medical Association*, 1906, Vol. XLVI, pp. 1247-1254, 1345-1348; also in *Proceedings of the Harvey Society*.

A description of the new antitoxin and vaccine laboratory, together with a ten years' retrospect of the production and distribution of diphtheria antitoxin. By Professor THEOBALD SMITH. *Annual Report of the Massachusetts State Board of Health*, 1905, pp. 529-546.

Experimental Pharmacology and Therapeutics. — Professor Franz Pfaff and Dr. L. Nelson studied the effects of aperients on the peristalsis of the stomach and intestines. The preliminary results were reported by Professor Pfaff at the May meeting of the Association of American Physicians in Washington, and the final results were reported at the meeting of the American Medical Association in Boston, June, 1906.

The following paper was published : —

The use and abuse of digitalis. By Dr. F. PFAFF. *The Boston Medical and Surgical Journal*, May, 1906.

Dr. M. V. Tyrode made an experimental research on the pharmacology of camphoric acid.

Surgery and Clinical Surgery. — The required instruction in these departments has not been materially changed during the past year.

Minor improvements have been made in the various courses; for example, closer coöperation has been secured between the authorities of the two great hospitals and the Division of Surgery in securing opportunities for students to work at the hospitals, and in supplying students to do the work of the surgical out-patient departments of the hospitals.

The elective fourth year in surgery has been apparently successful. Many students elected two months, and almost uniformly showed excellent judgment in the work they desired to do.

A certain number of the students in the mornings of each month received systematic instruction, and observed the cases in the operating rooms and wards at the Massachusetts General Hospital. This instruction consisted of ward visits in which individual cases for diagnosis were assigned to the students and demonstrated by them; consideration of after treatment in surgical cases, and attendance at operations. In addition to these exercises, short lectures and quizzes were given daily to the students by one or another of the instructors who were not on duty at the hospital, and in this way a great number of subjects in surgery and surgical pathology were covered. A special

exercise of great value was given by Drs. Whitney and Simmons once a week in demonstration of the pathological material obtained at operations. A reading room was also fitted up for the students, and equipped with the standard text-books on surgery, in order that opportunity for collateral reading might be given.

Another section of the students in the mornings of each month had the opportunity of doing a part of the work on one of the surgical services at the Boston City Hospital. They received daily systematic instruction in selected subjects, established diagnoses, assisted at operations, examined pathological specimens that were removed, followed day by day the progress of the cases in the wards, and did ward work, operating-room work, and out-patient surgical work. This work continued throughout the academic year.

A portion of the students in the afternoons of each of the months worked on the "general surgical service" at the Children's Hospital, doing dressings in the surgical out-patient department, making diagnoses, and doing and assisting at minor operations. From time to time the students under the house surgeon were shown and examined all the patients in the wards of the general surgical service.

Each month two or three students worked as dressers at the Relief Station of the Boston City Hospital. This work was arduous, for it occupied the student's time from early in the morning until well into the evening, but the work was sought for by practically every man who elected surgery. The students every day observed, examined, and treated, under supervision, from seventy-five to one hundred and fifty casualties. Sundays the work was less, but the students were present to do what work was assigned to them.

Every student who elected two months of surgery was requested to write a thesis, under instruction from Dr. Blake or Dr. Greenough, and some of these theses were excellent.

During the year the students who elected surgery attended the lectures given by Professor T. Smith, and a series of lectures given by members of the corps of medical instructors. The following lectures were given by members of the Division of Surgery on medico-surgical subjects to the students who had elected medicine and surgery:—

Dr. G. W. Gay,	Cellulitis.
Dr. M. H. Richardson,	Surgical Complications of Typhoid.
Dr. S. J. Mixer,	Management of Difficulties of Deglutition.
Dr. F. S. Watson,	The Medical and Surgical Treatment of Renal Calculi.
Dr. E. H. Nichols,	Osteomyelitis—Rheumatism. (After February.)
Dr. C. A. Porter,	Empyema.
Dr. J. B. Blake,	Surgical Aspects of the Surgery of the Gastro-intestinal Tracts. (2 lectures.)

The elective course in genito-urinary surgery was given by Dr. Watson in the first half of the year, and by Dr. Thorndike in the second half of the year.

Research work under the auspices of the Committee on Surgical Research has been continued during the past year. One paper was published by Assistant Professor W. B. Cannon and Dr. F. T. Murphy in the *Annals of Surgery*, April, 1906, on "The Movements of the Stomach and Intestines in some Surgical Conditions."

The work of the Caroline Brewer Croft Fund Cancer Commission has been carried on during the past year by Dr. E. E. Tyzzer, Director of Research. A large number of experiments have been made on the transplantable tumors of mice, and the interesting and valuable results of these experiments are now being prepared for publication.

Orthopedic Surgery.—The work in this department has been divided in three parts, — the first for third-year students, the second for fourth-year students, and the third for graduates.

The required work for third-year students in orthopedics has been largely lantern slide demonstrations, a syllabus, and a few clinical exercises. The object of this course is to give the students, whether they intend to practice medicine generally or specially, the minimum amount of information necessary for a properly educated physician.

The elective course in orthopedic surgery for the fourth year was well attended, and consisted entirely of group and case teaching with demonstrations. The class was a comparatively large one. The attendance was good, and the course seemed to be satisfactory to the students.

Surgical Pathology.—The required second-year course in surgical pathology has been modified in detail, although given in the same general way as before. A large number of microphotographs and photographs of gross specimens have been added.

Much attention has been paid to collecting material for the proposed fourth-year course in Regional Surgical Pathology. The collection of gross specimens, preserved in Kaiserling and in alcohol, has been much enlarged, and now has assumed respectable proportions. The collection of drawings to illustrate the course, and to supplement the gross specimens, now includes nearly two hundred drawings, paintings, photographs, and microphotographs. This collection was exhibited at the recent meeting of the American Medical Association.

Dr. F. T. Murphy has just completed a research, "Observations on Experimental Incisions through the Abdominal Wall of Cats." This article is ready for publication.

Dr. A. H. Gould performed all of the experimental work for his recent book, "Operations upon the Intestines and Stomach," in the surgical laboratory.

Assistant Professor E. H. Nichols has published in Bryant and Buch's *System of Surgery* the article upon "Repair of Tissues."

Assistant Professor E. H. Nichols has in press the article on "Rickets," in Keen's *Surgery*.

Assistant Professor E. H. Nichols and Dr. R. W. Lovett presented at the Toronto meeting of the British Medical Association an article on "Osteogmesis Imperfecta," to be published in the *British Medical Journal*.

Neurology.—During the past year the Department of Neurology published the first volume of scientific papers written by the members of the department, and representing studies made at the Massachusetts General Hospital, Boston City Hospital, Long Island Hospital, and Neurological Laboratory. This volume was edited by Dr. E. W. Taylor. It contains 210 pages of text, besides an appendix giving a complete bibliography of the scientific papers written by members of the department up to the present date. It is the intention of the department to issue similar volumes about once each year.

Hygiene.—Professor Charles Harrington and Dr. Magrath conducted an investigation of the germicidal properties of various kinds of soaps, including laundry, scented and unscented toilet, and medicated. The results have not yet been published.

The following papers have been published :—

Sanitary importance of clean milk. By Professor CHARLES HARRINGTON. *The Boston Medical and Surgical Journal*, February 1, 1906.

Public water filtration in Massachusetts. By Professor CHARLES HARRINGTON. *The Medical Record*, March 24, 1906.

The national pure food law. By Professor CHARLES HARRINGTON. *The American Journal of Public Hygiene*, August, 1906.

An outbreak of typhoid fever in Springfield, Mass. By Dr. G. B. MAGRATH. *The American Journal of Public Hygiene*, November, 1905.

Museum.—Possession of the new Warren Anatomical Museum was taken at the end of the school year. The removal of the specimens took about four weeks, requiring the entire time of ten people to pack and unpack, and of one or two teams for their transportation. Only one wax model, of little value, was broken, and a few small articles were lost, probably in the excelsior used for packing.

It was difficult to realize that the collection had been under such pressure for room in the old School building. For, with three times

as many feet of shelving as in the old cases, there is very little empty space left after properly displaying the specimens in the new ones. Although they have been placed upon the shelves in approximately the position they will occupy, still much rearrangement will be necessary, and an entire new set of labels and a new catalogue will have to be made. It is estimated that it will take fully a year to do this, and the collaboration of those interested in each department will be sought. In this connection it may be stated that it will also be the aim of the curator to make the collection a means of popular education, as well as of the greatest utility for systematic teaching and for aid to research.

A valuable gift of race skulls has been received during the past year.

Especial mention must be made of the work done by Dr. C. G. Weld, assisted by Dr. Townsend Thorndike, on a collection of old surgical instruments, which have been finely mounted and placed in cases presented by Dr. Weld. These will be permanently placed in the upper gallery of the new hall.

The Scholarships and Fellowships were awarded as follows: —

Joseph Pearson Oliver Scholarship,	M. J. Shaughnessy, A.B.,	3d Class.
Barringer Scholarship, No. 1,	H. V. Hendricks, S.B.,	1st "
Isaac Sweetser Scholarship,	E. L. Booth, A.B.,	2d "
Claudius M. Jones "	R. T. Congdon, A.B.,	3d "
Hilton "	W. A. Sawyer, A.B.,	4th "
" "	A. T. Brant, A.B.,	3d "
Barringer " No. 2,	W. J. C. Sharpe, A.B.,	2d "
Alfred Hosmer Linder Scholarship,	H. Morrison, A.B.,	2d "
Eveleth "	C. W. Waddell, A.B.,	3d "
" "	J. L. Huntington, A.B.,	3d "
" "	J. P. Leake, A.B.,	3d "
Edward Wigglesworth "	H. S. Bernstein, A.B.,	2d "
Charles B. Porter "	J. E. Overlander, Ph.B.,	1st "
John Thomson Taylor "	E. D. Bond, A.B.,	2d "
Lucius F. Billings "	D. Gregg, A.B.,	3d "
Orlando W. Doe "	F. H. Allen, A.B.,	3d "
Charles Pratt Strong "	A. H. Crosbie, A.B.,	4th "
David Williams Cheever "	S. W. Cornish, A.B.,	1st "
Lewis and Harriet Hayden "	E. D. Brown, A.B.,	3d "
Anonymous Gift, (½)	R. H. Goldthwaite, A.B.,	4th "
" " (¼)	R. A. Quigley, S.B.,	2d "
Cotting Gift,	F. H. McCrudden, S.B.,	2d "

The George Cheyne Shattuck Fellowship was awarded Henry A. Christian, A.M., M.D., for studies carried on during the past year

in the following subjects: Multiple myeloma. Solid teratomata of the mediastinum. Diseases of the mediastinum.

The Charles Eliot Ware Fellowship was awarded S. Burt Wolbach, M.D., for a study of the organisms isolated from cases of cutaneous blastomycosis, and coccidioidal granuloma.

The John Ware Fellowship was awarded Frederic T. Lewis, A.M., M.D., for the study of mammalian embryos in the Harvard Embryological Collection.

The statistics of the School will be found in the following tables:

COURSES OF INSTRUCTION, 1905-06.

FIRST YEAR.

	Students examined.
Anatomy. — Professor T. DWIGHT, Demonstrator WARREN, Assistant FLAGG, Assistant MOSHER, Instructor DAVIS, Assistant BUTLER, Assistant MARCY, Assistant WADSWORTH, Assistant CHEEVER, Assistant BINNEY, Assistant SCANNELL, Assistant ROBINSON.	65
Physiology. — Professor H. P. BOWDITCH, Associate Professor W. T. PORTER, Asst. Professor CANNON, Instructor LILLIE.	86
Histology and Embryology. — Professor MINOT, Assistant DONOGHUE, Assistant WRIGHT, Instructor BREMER, Instructor LEWIS, Austin Teaching Fellow THYNG.	72
Physiological and Pathological Chemistry. — Instructor ALSBERG, Instructor HENDERSON, Instructor HEWES, Assistant CONNOLLY.	67

SECOND YEAR.

Bacteriology. — Professor ERNST, Assistant PAGE, Assistant PERRY, Assistant WORTHINGTON, Assistant PALFREY, Assistant EVERETT, Assistant BAKER, Austin Teaching Fellow FROTHINGHAM.	67
Pathology and Pathological Anatomy. — Professor COUNCILMAN, Associate Professor MALLORY, Asst. Professor NICHOLS, Instructor WRIGHT, Assistant WOLBACH, Instructor BRINCKERHOFF, Instructor SOUTHARD, Assistant LOW.	67
Comparative Pathology. — Professor T. SMITH, Instructor BRINCKERHOFF, Assistant LOW, Assistant WOLBACH, Austin Teaching Fellow HOLT.	
Hygiene. — Asst. Professor HARRINGTON, Assistant MAGRATH.	73
Theory and Practice. — Professor FITZ, Instructor CUTLER, Assistant STONE, Instructor JOSLIN, Assistant WHITE, Assistant BADGER, Assistant PRATT.	
Clinical Medicine. — Professor SHATTUCK, Asst. Professor SEARS, Instructor VICKERY, Assistant J. M. JACKSON, Instructor CABOT, Instructor H. JACKSON, Assistant ROBET, Assistant DENNY, Assistant LOCKE, Assistant LORD.	
Surgery. — Professor WARREN, Professor RICHARDSON, Professor BURELL, Asst. Professor NICHOLS, Instructor LOTHROP, Instructor J. B. BLAKE.	

THIRD YEAR.

Therapeutics.—Professor PFAFF, Instructor TYRODE, Assistant NELSON.	76
Theory and Practice of Medicine.—Professor FITZ, Instructor CUTLER, Assistant STONE, Instructor JOSLIN, Assistant WHITE, Assistant BADGER, Assistant PRATT.	78
Obstetrics.—Professor W. L. RICHARDSON, Associate Professor C. M. GREEN, Instructor NEWELL, Assistant SWAIN, Assistant FRIEDMAN, Assistant TORBERT.	69
Otology.—Professor BLAKE.	69
Ophthalmology.—Asst. Professor STANDISH, Assistant JACK, Instructor QUACKENBOSS, Assistant CLAP, Assistant SPALDING, Assistant HASKELL.	75
Laryngology.—Clinical Instructor COOLIDGE, Clinical Instructor FARLOW, Clinical Instructor DeBLOIS, Assistant COFFIN.	69
Syphilis.—Instructor POST, Assistant C. M. SMITH.	70
Clinical Obstetrics.—Professor W. L. RICHARDSON, Associate Professor C. M. GREEN, Instructor NEWELL, Assistant SWAIN, Assistant FRIEDMAN, Assistant TORBERT.	
Dermatology.—Asst. Professor BOWEN.	72
Diseases of the Nervous System.—Professor PUTNAM, Assistant WATERMAN.	72
Pediatrics.—Professor ROTCH, Asst. Professor McCOLLOM, Clinical Instructor CRAIGIN, Instructor MORSE, Assistant LADD, Assistant DUNN.	71
Psychiatry.—Instructor COWLES.	78
Gynaecology.—Associate Professor GREEN, Assistant STORER, Assistant NEWELL, Assistant YOUNG.	70
Surgery and Clinical Surgery.—Professor WARREN, Professor M. H. RICHARDSON, Professor BURELL, Professor BRADFORD, Instructor THORNDIKE, Instructor LOTHROP, Lecturer GAY, Lecturer MONKS, Assistant LUND, Assistant BALCH, Assistant CRANDON, Instructor PORTER.	72
Genito-Urinary Surgery.—Lecturer WATSON, Instructor THORNDIKE.	
Clinical Medicine.—Professor SHATTUCK, Asst. Professor SEARS, Assistant BARTOL, Instructor H. JACKSON.	76

The following elective work was done by the students of the fourth year, under the supervision of the heads of Departments:—

FOURTH YEAR.

Anatomy	36	Surgery	66
Bacteriology	3	Orthopedics	35
Pathology	15	Surgical Pathology	8
Neuropathology	5	Obstetrics	39
Hygiene	4	Gynaecology	28
Clinical Medicine	71	Dermatology	13
Theory and Practice	28	Neurology	14
Pediatrics	63	Ophthalmology	3
Clinical Surgical Pathology	4	Laryngology	8

GENERAL STATISTICS OF THE SCHOOL.

New matriculants 79

The whole number of students in attendance : —

In courses for graduates	77
Fourth Class	66
Third Class	55
Second Class	72
First Class	79
Total	349

Applicants for Degree (February) 12

Applicants for Degree (June) 75

Rejected 6

Graduated 81

Of the 81 students who received the degree of Doctor of Medicine, 20 received the degree *cum laude*.

	SUMMER COURSES.					GRADUATE COURSES.				
	1902.	1903.	1904.	1905.	1906.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
Courses taken . .	145	188	177	222	306	30	57	59½	88	104
Students	130	148	135	173	192	25	41	49	72	77
Receipts	\$4400	\$5280	\$4942	\$6497	\$8793	\$700	\$1400	\$1446	\$2207	\$2663

The following statement by Dr. Mallory in regard to the Summer Courses is of great practical interest.

A larger number of Summer Courses were taken and more fees received this year than in the previous one. There was also an improvement last year over the year before. A careful analysis of the past three years is not entirely encouraging, however, because the increase has been due almost wholly to the courses offered by one instructor, Dr. R. C. Cabot. The first of the following tables shows that the number of different courses offered has been cut down from 126 to 75, and the number of courses not taken by any one from 57 and 64 to 25. This apparent decrease is due to the method of counting courses adopted this year. If each repetition of a course were counted a separate course, as in the past, the figures would read 141 and 67 instead of 75 and 25.

TABLE I.

	Number of different courses offered.	Number of courses taken by no one.
1904	126	57
1905	124	64
1906	75	25

The second table shows the total number of courses taken and the total receipts; to it are added the number of students who took Dr. Cabot's courses in 1905 and 1906 (none was offered in 1904), and the amounts he received in fees, which in 1906 was over half of all the money taken in. The subtraction of these figures shows what the Summer Courses would have amounted to without his students.

TABLE II.

	Total number of courses taken.	Total receipts.	Dr. Cabot.	Other instructors.
1904	177	\$4942	. . 41	177 \$4942 181½
1905	222½	6497	\$1230 139	\$5267 167
1906	306	8793	\$4485	\$4308

An analysis of the variations in the attendance on the courses offered by the different departments was made to see if they, especially medicine, were affected by the numbers taking Dr. Cabot's courses. These variations are seen in Table III.

TABLE III

	Anatomy.	Physiology.	Chemistry.	Pathology.	Bacteriology.	Hygiene.	Pharmacology.	Medicine.	Pediatrics.	Surgery.	Orthopedics.	Obstetrics.	Gynaecology.	Dermatology.	Neurology.	Ophthalmology.	Otology.	Laryngology.
1904 . .	6	10	14	18	12½	0	..	23½	5	19	4	31	2	6	3	1½	7	9
1905 . .	12	10	2	24	7	0	..	62	9½	23	6	35	6	3	2	2	6	5
1906 . .	8	6	2	7	10	2	6	163	14	31	5	29	7	3	1	1	3	5

Chemistry and Pathology show marked losses, due largely to the fact that the elementary courses offered in these subjects were given up, and, in the case of Pathology, to the further fact that in the practical course the number of autopsies has dropped to less than one third of what it used to be. Other departments show moderate fluctuations or healthy increase, except medicine, where the growth has been phenomenal, even after deducting Dr. Cabot's courses.

TABLE IV

	Medicine.	Dr. Cabot.	Other instructors.
1904	23½	....	23½
1905	62	41	21
1906	163	139	24

If the total number of laboratory and clinical courses taken are compared with each other, the result is striking even after deducting what is due to the courses offered by Dr. Cabot; the attendance on laboratory courses is steadily diminishing, while that on clinical courses is steadily increasing, as is shown in Table V.

TABLE V

	Laboratory courses.	Clinical courses.	Dr. Cabot.	Other instructors.
1904	60½	111½	....	111½
1905	55	161½	41	120½
1906	41	262	139	123

An examination to find out from what sections of the country the summer students this year came gives the following results :—

TABLE VI

	New England States.	Middle Atlantic States.	Southern States.	Central States.	Western States.	Canada.	Germany.
Students taking Dr. Cabot's courses	23	16	11	14	6	1	0
Students taking courses of other instructors	72	20	9	14	9	1	1

Twenty-three men from New England and forty-eight from elsewhere attended Dr. Cabot's courses, while seventy-two from New England and fifty-four from elsewhere took the courses offered by other instructors; in other words, over two-thirds of Dr. Cabot's students came from outside of New England, while only a little over two-fifths of the students attending other courses came from that source.

It is difficult to draw any hard and fast conclusion from this brief examination of the Summer Courses and form a knowledge of their character, but the following may be suggested:—

Research and advanced courses attract but few students in summer.

Practical courses are successful only when there is an abundance of material for the use of the students.

Elementary courses, more or less didactic in their method of instruction, can be made to attract large numbers. They draw men who have to make up examinations; who have had inefficient instruction elsewhere in a given subject; who wish to hear another man cover the same ground, but in a different way, over which they have just been, or who wish to review and get up to date on subjects studied years ago.

The Harvard Medical Alumni Association has shown its interest in the School in a most welcome and practical manner by the creation of an Alumni Fund. Twelve hundred dollars has been received for expenditure during the current year. In accordance with the wishes of the Association this sum has been utilized in the payment of salaries to a few instructors and assistants who will devote the whole or a large part of their time to teaching. The students will at once receive the advantages of this fund by the better instruction which is thus afforded.

In addition to the amount received for current expenses, a sum in the neighborhood of twenty-five hundred dollars has been collected and turned over to the Corporation to form the basis of a permanent Medical Alumni Fund. It is the wish of the Association that this fund shall be allowed to accumulate until it reaches one hundred thousand dollars, when the income is to be expended according to the vote of the Faculty.

A gift of ten thousand dollars has been received from a modest donor for the endowment of an instructorship in the Department of Theory and Practice. It is hoped that this precedent will encourage the endowment of other positions for instructors and assistants. It is the purpose of the School to develop future teachers, and endowments of this character, and funds like that created by the Medical Alumni Association, afford the means to that end.

FINAL EXAMINATION

First Class

Botany
 Physiological and Pathological Chemistry
 Anatomy
 Zoology

Second Class

Pathological Anatomy
 Therapeutics
 Bacteriology
 Hygiene

Third Class

Theory and Practice
 Surgery
 Obstetrics
 Pediatrics
 Dermatology
 Gynaecology
 Neurology
 Therapeutics
 Clinical Medicine
 Clinical Surgery
 Syphilis
 Ophthalmology
 Otolaryngology
 Laryngology
 Psychiatry

FOURTH CLASS.—ELECTIVES:—

FOURTH CLASS.—ELECTIVES:—																				
Anatomy	14	0	14	0	19	0	19	0	38	1	34	1	11	0	11	0	36	0	36	0
Embryology	1	1	2	50	2	0	2	0	2	0	2	0	2	0	2	0	2	0	2	0
Physiology	3	0	3	0	2	0	2	0	3	0	3	0	1	0	1	0	3	0	3	0
Clinical Chemistry	5	0	5	0	1	0	1	0									15	0	15	0
Bacteriology																	6	0	6	0
Pathology																	4	0	4	0
Neuropathology																	70	1	71	1
Hygiene	5	0	5	0									2	0	2	0	28	0	28	0
Medicine																	63	0	63	0
Theory and Practice																	8	0	8	0
Pediatrics	7	1	8	12	12	0	12	0	15	0	15	0	2	0	2	0	66	0	66	0
Clinical Surgical Pathology	79	2	81	2	78	0	78	0	77	0	77	0	42	0	42	0	35	0	35	0
Surgery	37	1	38	2	25	0	25	0	22	0	22	0	31	0	31	0	3	0	3	0
Orthopedics																	39	0	39	0
Surgical Pathology																	28	0	28	0
Obstetrics	87	11	98	11	64	0	64	0	94	2	96	2	54	3	57	5	13	0	13	0
Gynaecology	14	1	15	7	25	0	25	0	16	0	16	0	13	0	13	0	14	0	14	0
Dermatology	64	4	68	6	47	2	49	4	57	3	60	5	30	5	35	14	3	0	3	0
Neurology	7	2	9	22	7	0	7	0	5	0	5	0	5	2	7	28	14	0	14	0
Ophthalmology	6	0	6	0	7	0	7	0	4	0	4	0	5	0	5	0	3	0	3	0
Otology	1	0	1	0	4	0	4	0	3	0	3	0	2	0	2	0	8	0	8	0
Laryngology																				

FINAL EXAMINATIONS.

	1902.			1903.			1904.			1905.		
	Passed.	Failed.	Total.	Passed.	Failed.	Total.	Passed.	Failed.	Total.	Passed.	Failed.	Total.
FIRST CLASS :—												
Histology	71	7	78	9	75	84	68	4	72	66	6	72
Physiological and Pathological Chemistry	64	12	76	16	73	89	67	8	75	60	7	67
Anatomy	71	18	89	20	82	109	69	3	72	57	8	65
Physiology	68	13	81	16	66	82	50	34	84	69	17	86
SECOND CLASS :—												
Pathological Anatomy	143	17	160	11	58	169	70	4	74	60	7	67
Therapeutics	108	68	176	38	67	243	64	8	72	61	6	67
Bacteriology	136	19	154	12	68	180	64	3	67	69	4	73
Hygiene . . . . .	..	..	..	..	..	..	..	..	..	..	..	..
THIRD CLASS :—												
Theory and Practice	111	10	121	8	137	145	71	1	72	72	1	73
Surgery	110	5	115	4	132	136	65	2	67	60	2	62
Obstetrics	111	11	122	9	121	130	68	10	78	65	4	69
Pediatrics	120	3	123	2	128	130	70	6	76	68	3	71
Dermatology	113	19	132	14	131	145	66	10	76	68	4	72
Gynaecology	117	6	123	5	130	135	71	7	78	61	9	70
Neurology	116	7	123	5	139	144	73	6	79	68	7	75
Therapeutics . . . . .	..	..	..	..	..	..	..	..	..	61	11	72
Clinical Medicine . . . . .	..	..	..	..	..	..	..	..	..	48	28	76
Clinical Surgery . . . . .	..	..	..	..	..	..	..	..	..	70	6	76
Syphilis . . . . .	..	..	..	..	..	..	..	..	..	72	0	72
Ophthalmology . . . . .	..	..	..	..	..	..	..	..	..	70	0	70
Otology . . . . .	..	..	..	..	..	..	..	..	..	69	6	75
Laryngology . . . . .	..	..	..	..	..	..	..	..	..	64	5	69
Psychiatry	116	11	127	8	186	194	71	5	76	70	3	73

FOURTH CLASS. — ELECTIVES:—

Anatomy	14	0	14	0	19	0	19	0	38	1	34	1	11	0	11	0	36	0	36	0	8	0
Embryology	1	1	2	50	2	0	2	0	2	0	2	0	2	0	2	0	2	0	2	0	2	0
Physiology	3	0	3	0	2	0	2	0	3	0	3	0	1	0	1	0	3	0	3	0	3	0
Clinical Chemistry	5	0	5	0	1	0	1	0	1	0	1	0	2	0	2	0	15	0	15	0	5	0
Bacteriology	5	0	5	0	1	0	1	0	1	0	1	0	2	0	2	0	15	0	15	0	5	0
Pathology	5	0	5	0	1	0	1	0	1	0	1	0	2	0	2	0	15	0	15	0	5	0
Neuropathology	5	0	5	0	1	0	1	0	1	0	1	0	2	0	2	0	15	0	15	0	5	0
Hygiene	5	0	5	0	1	0	1	0	1	0	1	0	2	0	2	0	15	0	15	0	5	0
Medicine	5	0	5	0	1	0	1	0	1	0	1	0	2	0	2	0	15	0	15	0	5	0
Theory and Practice	5	0	5	0	1	0	1	0	1	0	1	0	2	0	2	0	15	0	15	0	5	0
Pediatrics	5	0	5	0	1	0	1	0	1	0	1	0	2	0	2	0	15	0	15	0	5	0
Clinical Surgical Pathology	7	1	8	12	13	0	13	0	15	0	15	0	2	0	2	0	2	0	2	0	2	0
Surgery	79	2	81	2	78	0	78	0	77	0	77	0	42	0	42	0	66	0	66	0	66	0
Orthopedics	87	1	88	2	35	0	35	0	22	0	22	0	31	0	31	0	35	0	35	0	35	0
Surgical Pathology	87	1	88	2	35	0	35	0	22	0	22	0	31	0	31	0	35	0	35	0	35	0
Obstetrics	87	11	98	11	64	0	64	0	94	2	96	2	54	8	57	5	39	0	39	0	39	0
Gynaecology	14	1	15	7	25	0	25	0	16	0	16	0	13	0	13	0	28	0	28	0	28	0
Dermatology	64	4	68	6	47	2	49	4	57	8	60	5	30	5	35	14	13	0	13	0	13	0
Neurology	7	2	9	22	7	0	7	0	5	0	5	0	5	2	7	28	14	0	14	0	14	0
Ophthalmology	6	0	6	0	7	0	7	0	4	0	4	0	5	0	5	0	3	0	3	0	3	0
Otology	1	0	1	0	4	0	4	0	3	0	3	0	2	0	2	0	2	0	2	0	2	0
Laryngology	1	0	1	0	4	0	4	0	3	0	3	0	2	0	2	0	2	0	2	0	2	0

A gift of two hundred and fifty dollars to promote the study of Diabetes Mellitus has been employed in connection with the Proctor Fund for the Study of Chronic Disease. Three-fourths of the entire time of one assistant in chemistry will be devoted to this object, while a salary paid by the School secures the remainder of the assistant's time for teaching. Gifts of a similar nature could be well employed in other departments. If the facilities which the School has to offer for the study of disease were made plain by the Alumni to their patients and friends, undoubtedly similar contributions would be received.

WILLIAM L. RICHARDSON, *Dean*.

THE DENTAL SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR, — As Dean of the Dental School I have the honor to submit the following report for the academic year 1905-06.

The number of students enrolled was 86, divided as follows :—

Post-Graduate student	1
Third-year students	42
Second-year students	23
First-year students	20
	<hr/> 86

There were forty-two candidates for the degree in June, eight of whom failed in the final examinations, leaving a graduating class of thirty-four, four of whom received the degree *cum laude*.

Instruction was given as follows :—

Anatomy.—Professor T. DWIGHT, Demonstrator WARREN, Assistants FLAGG, MOSHER, BUTLER, MARCY, DAVIS, NORTON, WADSWORTH, CREEVER, SCANNELL, and ROBINSON. 424 hours.

Physiology.—Professor H. P. BOWDITCH, Associate Professor PORTER, Assistant Professor CANNON, Instructor LILLIE. 348 hours.

Histology and Embryology.—Professor MINOT, Assistant DONOGHUE, Instructors BREMER, LEWIS, WRIGHT. 253 hours.

Physiological and Dental Chemistry.—Austin Teaching Fellow SMITH. 302 hours.

Bacteriology.—Professor H. C. ERNST, Instructor HILL, Assistants PAGE, ROBBY, PALFREY, BAKER, PERRY, EVERETT, Austin Teaching Fellow FROTHINGHAM. 160 hours.

Materia Medica and Therapeutics.—Professor E. C. BRIGGS, 32 lectures; Instructor RODGERS, 44 recitations.

Dental Pathology.—Professor C. A. BRACKETT. 32 lectures.

Neurology.—Instructor E. W. TAYLOR. 4 lectures.

Crown and Bridge Work.—Assistant Professor COOKE, 32 lectures; Assistant Professor COOKE, Instructors ELDERED and ESTABROOKS, 32 clinics.

Mechanical Dentistry and Orthodontia.—Professor E. H. SMITH. 32 lectures.

Orthodontia.—Professor E. H. SMITH, Instructors BAKER and REOCH. 32 clinics.

Mechanical Dentistry and Orthodontia, Juniors.—Instructor BAKER. 10 lectures.

Mechanical Dentistry.—Clinical Instructor J. D. DICKINSON. 24 hours.

Mechanical Dentistry, Laboratory, Seniors.—Demonstrator CROSS, Instructors HADLEY, PARSONS, HAYDEN, CHUTE, HALEY, SPINNEY, DILL, and J. W. DICKINSON. 496 hours.

Mechanical Dentistry, Laboratory, Juniors.—Demonstrator CROSS, Instructors CROFWELL, CODMAN, DAVIS, LANGLEY, KING, and DORT. 544 hours.

Anatomical Articulation, Mechanical Treatment of Fractured Jaws, Cleft Palates, and other Deformities. — Demonstrator CROSS. 21 lectures.

Extracting and Anæsthesia (Demonstrations). — Instructors FARRINGTON, HART, MARSTON, SQUAREBRIGS, O'BRIEN, and MINER. 477 hours.

Continuous Gum and Porcelain Inlay Work and Carving Teeth. — Clinical Lecturer STODDARD, 18 lectures and demonstrations, 16 clinics; Instructor MOFFATT, 4 clinical lectures, 8 demonstrations.

Operative Dentistry, Seniors. — Professor POTTER. 32 lectures.

Operative Dentistry, Juniors. — Lecturer BRADLEY. 32 lectures.

Operative Dentistry. — Clinical Instructor WERNER. 13 lectures and demonstrations.

Operative Dentistry and Dental Jurisprudence. — Clinical Lecturer CLAPP, 12 lectures; Instructor STARRATT, clinical assistant.

Operative Dentistry, Samaritan Hospital. — Instructor ROGERS. 32 clinics.

Operative Dentistry, Infirmary, Juniors. — Lecturer BRADLEY, Assistant Demonstrator D. W. DICKINSON, Instructors LITTIG, ELLIOTT, WHITEHILL, and PIKE. 408 hours.

Operative Dentistry, Infirmary, Seniors. — Lecturer BRADLEY, Assistant Demonstrator D. W. DICKINSON, Instructors EDDY, BLAISDELL, FURFEY, and PAUL. 624 hours.

Oral Surgery. — Instructor SHUMAN. 6 lectures; 32 clinics.

Surgical Pathology and Surgery. — Lecturer MONKS, 10 lectures and demonstrations; Instructor BLAKE, 5 clinics at the Boston City Hospital.

The work of the School is shown in the following tables: —

OPERATIVE DEPARTMENT.

No. of patients treated	7,826
“ treatments of teeth and gums	2,027
“ sets of teeth cleansed	1,425
“ operations	18,078
“ fillings — gold	2,343
“ “ amalgam	2,267
“ “ cement	1,574
“ “ gutta percha	2,742
“ porcelain inlays	176
“ gold inlays	16
“ combinations	140

SURGICAL CLINICS.

No. of cases of necrosis	7
“ “ abscess	13
“ “ antrum disease	4
“ “ epulis	6
“ “ cleft palate	1
“ “ syphilis	4
“ “ impacted wisdom teeth extracted	5
“ “ growth on lips	3

MECHANICAL DEPARTMENT.

SERVICE TO PATIENTS.

No. of sets of artificial teeth	199
“ “ “ “ repaired	111
“ partial sets of artificial teeth	164
“ appliances for fractured jaws	18
“ obturators and appliances for cleft palates	11

PRACTICE WORK.

No. of specimen plates	225
“ plates repaired	21

ORTHODONTIA.

SERVICE TO PATIENTS.

No. of patients treated for irregularities of the teeth	127
“ appliances	178
“ articulated models of regulating cases	181

PRACTICE WORK.

No. of articulated models of regulating cases	22
“ appliances	92

CROWN AND BRIDGE WORK.

SERVICE TO PATIENTS.

No. of crowns and caps	226
“ crowns repaired	29
“ pieces of bridge work	77
“ “ “ repaired	13
“ porcelain tips	4
“ carved crowns	29

PRACTICE WORK.

No. of crowns and caps	92
“ bridges	54
“ porcelain inlays	83
“ carved teeth models	30

On Saturday afternoons during January, February, and March special clinical instruction was given to third-year students as follows : —

Professor WILLIAM H. POTTER.	Porcelain Inlays.
Dr. J. MORGAN HOWE, New York.	Amalgam in Large Bicusps and Molar Cavities.
Dr. HENRY F. LIBBY.	Welding of Gold by Burnishing.
Dr. CECIL P. WILSON.	Welding of Gold by Malleting.
Professor EDWARD C. BRIGGS.	The Making of a Porcelain Crown.
Dr. HENRY W. GILLET, New York.	The Use of Gold in a Compound Filling in a Bicuspid.
Dr. WILLIAM D. TRACY, New York.	Gold Inlays.

In May, 1906, at the request of Mrs. Francis Crowninshield, the School took charge of the examination of the teeth of the inmates of the Sunny Side Day Nursery. The work was conducted by Benjamin Tishler, D.M.D.

In May and June, 1906, Professor Potter took charge of the work of the examination of the teeth of the pupils of the Pierce School of the town of Brookline. Seven hundred mouths were examined and the results tabulated. This examination was instituted to determine the advisability of making an examination of the teeth an established custom in the Brookline Schools. Professor Potter was assisted by Drs. D. F. Spinney, E. N. Kent, and E. B. Wyman.

H. Carlton Smith, Ph.G., Austin Teaching Fellow in Dental Chemistry, has conducted a series of experiments with fruit juices to determine their comparative action upon tooth substance. A considerable time has also been spent in determining the composition of some of the artificial enamels on the market; also on the causes of the disintegration of cement fillings in the mouth. Experiments have been carried on relative to the disintegration of amalgam fillings by very weak currents of electricity with a view to determine whether such currents have any appreciable action in the mouth. He has also carried through a set of experiments on the effect of preservative (Formaline) on the activity of saliva as an amylolytic ferment. The composition of various tooth washes, notably Glyco-Thymaline, Sanitol, Borine, and Lythol, has been investigated. The results of these investigations have been used by Dr. Squires in his recent attacks on proprietary articles. During the winter Mr. Smith read a paper before the American Academy of Dental Science, covering the results of his investigations, and also gave two clinics, one at Buffalo before the National Dental Association, and one in Boston before the Massachusetts State Dental Society, demonstrating our methods of research and teaching.

Dr. Harold DeW. Cross has been working on the problem of anatomical articulation as a means to perfect the usefulness of artificial dentures. He has studied the movement of the natural teeth in mastication and made, so far as possible, an accurate reproduction of such movements in artificial teeth with special reference to the angle of the condyle path.

There have been published : —

Chemistry for Dental Students. By H. CARLTON SMITH. John Wiley & Sons, New York.

The Extraction of Permanent Teeth in the Treatment of Mal-Occlusions. Illustrated from cases taken from a period of twenty years' practice. By Professor EUGENE H. SMITH. *The Journal of the New York Institute of Stomatology, etc.* Vol. I. 1906.

For the first time since 1898, a Summer Course in Dentistry was offered to advanced students, graduates, and practitioners. Announcements of the course were mailed throughout the New England and Southern States, with the result that eighteen students, representing nine different states and Africa, attended the course. Instructors in the School volunteered their services and instruction was given as follows :—

Orthodontia.—Professor E. H. SMITH, 2 lectures; Instructors BAKER and REOCH, 4 hours.

Anatomical Articulation, Maxillary Fractures, Artificial Palates, and Prosthetic Work.—Demonstrator CROSS, lectures and demonstrations, 11 hours.

Porcelain and Gold Inlays.—Clinical Lecturer STODDARD, lectures and clinics, 4 hours; Instructor HADLEY, clinical demonstrations, 18 hours.

Carving Teeth.—Instructor MOFFATT, demonstrations, 8 hours.

Crown and Bridge Work.—Assistant Professor COOKE, lectures and clinics, 4 hours; Instructor ESTABROOKS, demonstrations, 9 hours.

Operative Dentistry.—Lecturer BRADLEY, Prophylaxis, lecture, 1 hour; Instructor ELLIOTT, Combination Fillings, lectures and clinics, 4 hours; Clinical Instructor WERNER, Contour Fillings, clinics, 4 hours; Instructor BLAISDELL, Non-Cohesive Work and Pressure Anaesthesia, clinic and demonstrations, 4 hours.

Operative Dentistry, Infirmary.—Drs. WHITEHILL, PIKE, FURBISH, TISHLER, O. S. SMITH. 40 hours.

Extracting and Anaesthesia.—Professor POTTER, clinics, 10 hours; Instructor SQUAREBRIGS, clinics, 10 hours.

Materia Medica.—Instructor RODGERS, lectures, 2 hours.

Dental Chemistry.—Austin Teaching Fellow SMITH, lecture, 2 hours. Also a course in General Chemistry and Qualitative Analysis, 175 hours.

Neurology.—Instructor TAYLOR, lecture, 1 hour.

Oral Surgery.—Instructor SHUMAN, clinic, 2 hours.

Syphilis.—C. MORTON SMITH, M.D., Assistant in Syphilis in the Harvard Medical School, lectures and clinics, 4 hours.

Mechanical Dentistry, Laboratory.—Drs. CHUTE, EAMES, HALEY, HAYDEN, WYMAN, KAZANJIAN. 80 hours.

Dr. Frederick Bradley, on account of ill health, was unable to accept a reappointment. Dr. Bradley has served the School under the various appointments of demonstrator, instructor, and lecturer, for fifteen years. He was an excellent teacher, and his resignation is to be regretted.

Dr. Forrest G. Eddy, Instructor in Operative Dentistry since 1888, declined a reappointment. Dr. Eddy was a teacher of unusual force and clearness. He knew his subject well and knew how to impart it to his students. For eighteen years he has practically given his services to the School, as the very small salary he received scarcely paid the cost of his travel from Providence to Boston. Such

devotion to the School is deserving of the highest praise, and the loss of his services and personality is to be deplored.

Dr. Dwight M. Clapp, Lecturer in Operative Dentistry, died September 28, 1906. Dr. Clapp was appointed Clinical Instructor in Operative Dentistry in 1882, Clinical Lecturer in Operative Dentistry in 1890, and became a member of the Administrative Board in 1899. Dr. Clapp had thus served the School as a teacher for twenty-four years, and as an administrative officer for six years. As a teacher he was clear and strong, and as an administrative officer he brought to the councils of the Board rare judgment and helpful optimism. He believed in the Dental School and did more than any other one person in the raising of money for its needs. He published several papers of merit, and contributed to a standard work on Operative Dentistry a very excellent chapter on "Combination Fillings." As a member of the Massachusetts State Board of Registration in Dentistry he did much in the raising of educational standards. His was a strong character, and his helpfulness to the School and the profession will long be remembered with gratitude.

EUGENE H. SMITH, *Dean.*

BUSSEY INSTITUTION.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — I respectfully submit the following report on the Bussey Institution for the academic year 1905–06.

The number of students enrolled was twenty-seven, of whom fifteen were first-year students, seven were second-year students, and five were third-year students. Four students were recommended at Commencement for the degree of Bachelor of Agricultural Science. Beside the above-mentioned professional students, devoted wholly to the acquisition of agricultural and horticultural knowledge, fourteen students of Landscape Architecture enrolled at Cambridge came to the Bussey Institution as guests on stated days to attend lectures on Horticulture.

The usual courses of instruction in Agriculture, Horticulture, Cattle Breeding, Cattle Feeding, Dairying, Agricultural Natural History, Botany, Agricultural Chemistry, Qualitative Chemical Analysis, Land Surveying and Rural Construction were given by Messrs. Hersey, Watson, Morse, Paige, Clarke, Dillingham, Robinette, and Storer. More attention than had previously been customary was given to practical work in the greenhouses under the guidance of Mr. Shedd.

Everyone connected with the School regretted sincerely the resignation of Mr. Edmund Hersey at the close of the academic year, on account of failing health. In spite of his advanced age, Mr. Hersey had during fifteen years lectured most satisfactorily on the farming methods of New England. Of wide practical experience and thoroughly scientific habits of thought he had a gift of expression or even of exhortation unusual in men who have long been occupied with the actualities of agriculture. It is a matter for congratulation that, thanks to his teachings, there have been left with us successors competent to carry on the good work in the light of existing conditions.

Gifts of thirty volumes of books on Chemistry and Natural History were received through Edward Ross Warren, Esq. (A.B. 1888), from the estate of Cyrus Moors Warren (S.B. 1855), and of twelve volumes relating to Agriculture from William Sumner Appleton, Esq. (A.B. 1896).

One hundred dollars in money were contributed by an anonymous association of students to the Instructor of Natural History for the purpose of enabling him to have made several tables to be used in his department.

One Bulletin of the Bussey Institution was published. It contained an account by Mr. Hersey of a field experiment to test the requirements of a peculiar Sandy Loam, and "A Contribution to the History of the Use of Bark Bread," by Mr. Dillingham.

F. H. STORER, *Dean*.

THE LIBRARY.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR, — I beg to submit this my ninth annual report on the Library, covering the year 1905–06.

In my last report I set forth, as year by year I have tried to do before, the larger needs of the Library — a building adequate for the storage and use of its great collections, and an endowment sufficient to maintain an expert, scholarly, and numerous staff, able to care properly for the books, and to help students in the use of them. But, there being no immediate prospect of satisfying these larger needs, I turned to an inquiry how the most pressing demands could be best met for the next few years, longer continuance under present conditions seeming impossible. The most economical plan, I thought, “would be to build an extension of the present East stack to the eastward for say fifty feet (the present stack is seventy feet long), with the addition of a one-story or a two-story section along the whole north side of this stack, corresponding to the section on the south side in which the cataloguing rooms and the librarian’s office are contained. This would give us shelf-room for some 150,000 more volumes, would permit the enlargement of the Delivery Room, would give additional space for the staff, and some quiet study-rooms for professors and advanced students, besides a small reading-room in which rare books might be kept and used.” I am happy to state that a part of this plan is to be immediately realized. For this the Library is indebted to the Visiting Committee of the Board of Overseers, the members of which have taken a lively interest in devising means of relief, and have testified their interest, not only by a strong report to the Overseers, but by a generous contribution toward the expense of carrying out their own recommendations. As a result of the Committee’s activity, the Corporation has authorized the construction of an addition along the north side of the East stack, containing two stories and a basement corresponding to the section on the south side of the same wing, which contains one story and basement. The advantages we gain are : an enlarged delivery room ; a small reference and reading room opening from it ; three rooms for the staff, so that the shelf department and other assistants may be withdrawn from their present quarters in the stack ; a room in which all our rare books and many of our manuscripts can be brought together and in which they may conveniently be used ; a map room, which will also serve as a study-room ; a class-room, in which small

classes may meet; store-rooms in the basement; a lunch room for ladies of the staff; and an hydraulic lift. All these improvements facilitate the administration of the Library, and in several ways add to the convenient accommodation of readers. The improvements are most welcome, but it should be observed that no substantial addition to our shelf-room is made by them. A little additional shelving in the basement will be practicable, and probably the sections at the end of alternate rows in the present stack, now occupied by tables, may be filled up, thus giving room for a few thousand volumes. But until some real addition is made to the stack itself, we must see one group after another of our books transferred to the basement of other buildings, where access to them becomes more and more difficult.

Our other great need—more income for administration—must also be remembered, and must be supplied at the earliest possible moment. A gift of a thousand dollars, procured through a member of the Visiting Committee from a lady in Boston, permitted additional work to be undertaken and better care to be given to the shelves throughout the latter half of the year covered by this report, but every year we are confronted by the same difficulty,—on the one hand, an increasing amount of work to be done; on the other, the inability of the College to increase its expenditure on the Library. In a special report made to the Visiting Committee last January, I presented tables comparing the average of the two years 1896–97, 1897–98 with the average of the two years 1903–04, 1904–05. These tables showed that in the course of the seven years the number of volumes annually received had increased 80 per cent. (from 10,810 to 19,465); the income available from funds and gifts for the purchase of books, 74 per cent. (from \$13,968 to \$24,285); the cards added annually to the public card catalogue, 74 per cent. (from 23,187 to 40,501); while the salary and wages roll of the Library has only grown from \$30,696 to \$34,059, or less than 11 per cent., and the total cost of administration from \$40,663 to \$44,624, an increase of less than 10 per cent. This is a bad showing. A moderate difference between the rate of increase in the work to be done and in the expense of doing it implies economy and good management; a large difference argues enforced neglect. It is a fair inference, from these figures, either that the work of the Library was conducted in an extravagant and unreasonably elaborate manner seven years ago, or that, at the present day, it has been cut down by a too stringent economy to a point where some considerable portion of it does not get done at all. That the latter, and not the former, inference is the true one is evident to all who know the

Library. On the completion next year of the addition to the Library, with its new working-rooms, an increase in the staff will be more than ever demanded, and additional income of from two to five thousand dollars a year should be provided from some source.

The Catalogue of English and American Chap-books and Broadside Ballads described in my last report was distributed in December, 1905. The Catalogue of the Molière Collection was finished in the course of the year and was distributed in June, 1906. The preliminary work on the catalogue of the Molière collection was done by Mr. Ernest Lewis Gay, but the whole of the manuscript and the proof, as well as the books themselves, also passed under the careful scrutiny and revision of Mr. Currier. Over 1,300 of the 1,793 volumes comprised in the Molière collection came to us from the private library of Professor Ferdinand Bôcher. It was Professor Bôcher's earnest wish, often expressed during his later years, that his library, or that portion of it which related to his favorite studies, should finally come into the possession of this Library. Through Mr. James Hazen Hyde, of the Class of 1898, this desire was fulfilled. On Professor Bôcher's death Mr. Hyde bought the library as a whole, and presented to the College Library the editions of Molière's works and everything that related in any way to the study of Molière, including early editions of the works of Molière's contemporaries (about 330 volumes). To this he added Professor Bôcher's collection of Montaigne literature (246 volumes and 92 pamphlets), which includes most of the early and rarer editions of the *Essays*.

The collections thus permanently preserved in the College Library form interesting and appropriate memorials of their former owner, and of his entire devotion to the interests of French literature in Harvard University. As Instructor in French from 1861 to 1865, and as Professor of Modern Languages from 1870 to 1902, he was mainly responsible for the building up of a vigorous French Department in the College. The excellence of the collection of French literature in the College Library is also largely due to the constant care and discrimination which he bestowed upon it. The Library is under obligation to Mr. Hyde for contributing a large part of the cost of preparing the Catalogue, and for permitting us to bind, at his expense, several hundred of the books given by him.

Both the Chap-book and the Molière Catalogues, one of 182 pages, the other of 148 pages, are larger than our Bibliographical Contributions have ordinarily been, and they have exhausted the income of the portion of the Richard Manning Hodges Fund assigned to this use, so that we shall probably not be able to issue another Contribu-

tion for some time. Dr. Farlow's Bibliography of American Fungi, now in process of printing, will be paid for from another source. An account of the Ottoman Collection is partly ready for the printer, and will, I hope, when properly revised and completed, be printed. I had expected, before this, to begin the issue of an annual list of the more important accessions to the Library, omitting most of the current books which any large library might be expected to buy, and confining the list to the rare, curious, out of the way, or extensive works which the Library now has the means to acquire as never before. But the expense involved — the expense of the necessary editorial work, even more than the cost of printing — has made such a publication for the present impracticable.

The custom of lending to other libraries and of borrowing from them in return increases from year to year. Statistics in regard to loans made by the Library are given on another page. The number of books borrowed is naturally much less, not because of unwillingness to lend on the part of other libraries, but because our own collection is, without doubt, the richest and the most comprehensive library for a scholar's use in this country. Over fifteen hundred volumes were sent in the course of the last year to other libraries for the use of resident scholars, or in some cases to individuals directly. The labor of attending to almost daily applications for loans, of getting the books together, of dispatching them to their several destinations, and of looking after them again when they are returned, is now considerable, yet this is evidently one of the largest services which the Library renders to scholarship, and one of the most highly prized. I wish that the Library might be better equipped to perform it. With a suitable endowment for this service, a small special staff devoted to it, additional purchases directed to facilitate it, so that, with its growth, the rights of students in Cambridge might not suffer, this Library might usefully conduct a central lending library for the benefit of all other colleges in America. Such a plan would be of the greatest practical value to all the smaller colleges, and could, I believe, be inaugurated here more economically and with larger results than anywhere else.

To call the attention of our own readers to the fact that books in many other libraries are accessible to students here, we have brought together in the Delivery Room, and have placed on the card catalogue case, some seventy-five special catalogues issued by a few of the larger libraries — libraries with which we are in constant communication. These catalogues make no claim to being bibliographies or even reference lists, and the collection has not been arranged with

the thought of providing such bibliographies. They are merely lists issued for the purpose (1) of exhibiting the resources of an individual library on some subject of historical importance or current interest (e. g. the list of works on Africa in the Boston Public Library, and the list of works relating to government control of railroads, rates regulation, etc., in the New York Public Library), or (2) of providing a catalogue of a notable collection which the library possesses (e. g. the catalogue of the Barton Shakespeare Collection in the Boston Public Library, and the catalogue of Russian works and works on Slavic history and literature in the Yale University Library). With patience, the collection can be still further increased, and it is surprising to see how much of the material in other libraries has already been recorded in print, and is therefore ready to the hand of searchers elsewhere, if only it is brought to their attention. Our own library has perhaps done less than its share in distributing among other libraries detailed information in regard to its own treasures.

The accessions to the libraries of the University for the year, and the present extent of each are shown in the following table: — *

ACCESSIONS.	Volumes added.	Present extent in	
		Volumes.	Pamphlets.
Gore Hall (College Library)	18,072	465,500	316,700
Law School	9,189	96,545	10,608
Divinity School	1,187	85,958	9,681
Medical School . . . . .	. .	12,000	24,000
Dental School	22	988	9,000
Bussey Institution	102	4,600	. .
Museum of Zoölogy	1,264	42,421	86,822
Peabody Museum	151	3,422	3,070
Astronomical Observatory	458	11,850	23,231
Gray Herbarium	681	9,816	7,900
Arnold Arboretum	2,545	14,485	. .
Twenty-eight Special Reference Libraries	3,764	44,680	. .
Total	37,335		
Deduct, transfers between Gore Hall and Department Libraries	860		
Totals	36,975	742,210	440,512

* The figures given for all statistics in the present report are for the year ending July 31. In previous reports, statistics relating to the income and expenditure have been for this year, which is the financial year of the College, but other statistics have been for the year ending September 30th. In future, all statistics will relate to the same year, August 1 to July 31.

The accessions to the Law School and to the Arboretum, and the total number of volumes added to all the libraries of the University exceed the records of all previous years. The number of volumes added to the College Library has only been exceeded twice before.

The map collection in the College Library contains 24,723 sheets not included in the above enumeration.

The additions to the College Library for the last five years have been as follows : —

ADDITIONS TO COLLEGE LIBRARY.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
Volumes by purchase or exchange .	7,400	7,731	7,870	7,746	11,012
Do. by binding serials	1,359	1,152	1,312	1,760	1,767
Do. by binding pamphlets	610	736	1,104	1,098	943
Do. by gift	4,648	7,358	12,009	6,031	4,350
Total volumes added	14,017	16,977	22,295	16,635	18,072
Maps in sheets	524	1,064	354	2,001	1,112
Pamphlets by purchase or exchange	1,449	1,950	1,217	1,193	2,829
Do. by gift	16,230	13,441	14,259	14,951	14,404
Total gifts (vols. and pams.) . . .	21,914	20,799	26,268	20,982	18,754

The average of the annual accessions of the last four years has been 18,495 volumes, or 18 per cent. larger than the average of the previous four years (15,677), and 69 per cent. larger than the four years before that (10,950). It will be noticed that the number of volumes acquired by purchase or exchange largely exceeds last year's record, but that the number of volumes received by gift is far less than last year. This changed relation, however, hardly corresponds with the actual fact, since, in the previous two years, the books received from Professor Coolidge for the Hohenzollern Collection, having been paid for directly by him, have been counted as gifts, whereas, during the year covered by this report, these gifts, having been paid for through the Library, figure as volumes bought. The same is true of all other volumes bought with gifts of money paid over to the Library. They are essentially gifts, but they have to be recorded as volumes bought, not given, because paid for through the College treasury. In a sense it is true that, not only these volumes, but all books acquired by the Library are gifts, since all the funds from the income of which they are bought were given to the University in the first place. Ordinarily none of the free income of the College is used to buy books for the College Library.

Dr. Malcolm Storer, Curator of Coins, reports that the additions to the collection under his charge during the past year have been chiefly medals, some being of great artistic beauty. Among these is the medal bearing the head of Professor Barrett Wendell, engraved during his lectureship in France; the gold medal given to Professor John K. Paine at the unveiling of the Wagner monument in Berlin; Professor Paine's copy of the medal presented to artists contributing to the Louisiana Purchase Exposition in St. Louis; and medals commemorating the bi-centennial of the Château de Ramezay, the two hundredth anniversary of the settlement of Jews in America, and the two hundredth anniversary of the birth of Benjamin Franklin. Miss Martha C. Codman has given the Phi Beta Kappa medal of her great-grandfather, Benjamin Pickman, of the Class of 1784, one of the earliest members of the Society.

No single great gift of books, like the Norton library, received in 1904-05, or the Von Maurer library, received in 1903-04, can be recorded for the past year, but the number of gifts received, from individuals, from societies, and from national and state governments, has probably been as large as ever. From the Austrian Government, through Hon. Bellamy Storer, American Ambassador at Vienna, have come 169 volumes of the records and documents of the Austrian Reichsrath from 1873 to date. From the Prussian Government, and from many of the German provincial governments — namely, from Brandenburg, Hannover, Hessen-Nassau, Pomerania, Posen, East Prussia, West Prussia, Saxony, Schleswig-Holstein, Silesia, and Westphalia — we have continued to receive their current legislative documents, making a collection of material of this nature of unusual completeness.

From the Japanese Ministry of War, through the kindness of Baron Kikkawa, we received 838 sheets of maps published by the General Staff. The National Library of Chili has sent 23 volumes of Chilian publications. The Geographical and Statistical Institute of Spain and the Commission on the Geological Map of Spain, through the kindness of Señor Azpiazu, have completed our sets of their publications and maps.

Mr. H. Nelson Gay, of Rome, has continued to collect for us volumes and pamphlets on the Italian Risorgimento, as well as to spend for us, to excellent advantage, the modest appropriation made by the Library Council for the same purpose.

Mr. F. E. Chase, of Boston, has continued to send us from time to time dramatic works, and Mr. Ferris Greenslet, of Cambridge, volumes of American poetry. Mr. Alain C. White, Miss Henrietta

Gardiner, and the family of Francis Ellingwood Abbot have also sent us large numbers of books and pamphlets. The Cercle Français presented to the Molière Collection a manuscript score of Lully's music to Molière's "*L'Amour Médecin*." Dr. Almon D. Hodges, Jr., of the Class of 1889, of Roxbury, through Mr. Frank L. Fish, of Boston, gave to the Library a number of scientific works, which proved useful in the Engineering library, in the library of Mining and Metallurgy, and in the Geological Collection of the Museum.

From Rear-Admiral John G. Walker was received a notable collection of works relating to the Panama Canal and to other great canals, a collection made by Hon. W. Cameron Forbes, of the Class of 1892. For the present, the collection is placed, as a whole, in the Engineering library.

The gifts of money for the purchase of books have been more numerous than ever before. Messrs. Harold J. Coolidge, '92, Ellis L. Dresel, '87, James Loeb, '88, and William Phillips, '93, have continued their annual gifts for the purchase of books on China, the German Drama, Labor periodicals, and London; and Mr. Edwin S. Mullins, '93, and Mrs. George A. Nickerson, of Brookline, their annual gifts for books on Folk-lore.

Professor A. C. Coolidge's gifts have amounted to \$6,338.88, of which \$4,646.19 was for books, the balance, \$1,692.69, covering the expense of Mr. Lichtenstein's expedition in Europe.

Mr. Alexander Cochrane, of Boston, gave \$1,250 for books on Scottish History and Literature, by which our collections in that department have been very notably increased.

From an anonymous donor, through Professor A. C. Coolidge, was received \$1,000 to be spent on Dutch History, the books to be known as the John Lothrop Motley Collection. An intimation of further gifts from the same donor, for the same purpose, has been received.

Gifts amounting to \$1,025 were received from Messrs. Francis R. Appleton, '75, Francis S. Blake, '93, Ernest B. Dane, '92, and Edgar H. Wells, '97, for early editions of English authors.

Gifts amounting to \$225, from Messrs. I. Tucker Burr, '79, George H. Earle, Jr., '04, Professor F. W. Taussig, '79, John E. Thayer, '85, and Charles G. Washburn, '80, have been spent for early works on Economics.

Dr. Hiram Bingham, who still retains the title of Curator of South American History and Literature, added to his former gifts \$25 to be spent for books on South America.

Mr. Blair Fairchild, '99, has given \$25 to be spent for books on Paris.

Hon. Edwin V. Morgan, '90, formerly Minister to Korea, and now American Minister to Cuba, authorized the Library to buy books on Korea at his expense.

The Dante Society has added another \$150 to its former gifts to be spent on the Dante Collection.

The total amount received in this way for the purchase of books on specific subjects was \$8,937.38.

SPECIAL REFERENCE LIBRARIES.

The present extent of these libraries is as follows :—

SPECIAL REFERENCE LIBRARIES.	Perma- nent.	On Deposit.	Totals.
1. Chemical Lab. <i>Boylston Hall</i>	900	1,044	1,944
2. Physical Lab. <i>Jefferson Phys. Lab.</i>	58	369	422
3. Botanical Lab. <i>University Museum</i>	589	124	713
4. Geological Lab. <i>Do.</i>	124	..	124
5. Mineralogical Lab. <i>Do.</i>	540	231	771
6. Phys. Geography Lab. <i>Do.</i>	343	226	569
7. Zoölogical Lab. <i>Do.</i>	278	..	278
8. Classics. <i>Harvard Hall 3</i>	4,007	148	4,155
9. History. <i>Harvard Hall R. R.</i>	3,147	114	3,261
10. United States History. <i>Harvard Hall R. R.</i> . .	899	8	907
11. Political Economy. <i>Do.</i>	1,354	21	1,375
12. Social Ethics. <i>Emerson Hall.</i>	1,810	6	1,816
13. Child Memorial (English). <i>Warren House</i> . .	4,550	90	4,640
14. Lowell Memorial (Romance). <i>Do.</i> . . .	1,523	6	1,529
15. German. <i>Do.</i>	1,293	..	1,293
16. French. <i>Do.</i>	2,573	..	2,573
17. Sanskrit. <i>Do.</i>	942	29	971
18. Semitic. <i>Semitic Museum</i>	1,494	..	1,494
19. Mathematics. <i>Sever 22</i>	596	80	676
20. Mining and Metallurgy. <i>Rotch Laboratory</i> . .	47	21	68
21. Engineering. <i>Pierce Hall</i>	6,622	525	7,147
22. Music. <i>Holden Chapel</i>	455	..	455
23. Philosophy (Robbins Library and Psychol. Lab.). <i>Emerson Hall.</i>	2,570	43	2,613
24. Education. <i>Lawrence Hall</i>	5,643	..	5,643
25. Fine Arts (incl. Gray and Randall Coll.). <i>Fogg Museum</i>	956	..	956
26. Architecture. <i>Robinson Hall</i>	1,075	13	1,088
27. Preachers' Library. <i>Wadsworth House</i>	95	..	95
28. The Study. <i>Phillips Brooks House</i>	59	..	59
29. Social Service Committee. <i>Phillips Brooks House</i>	93	..	93
Totals	44,630	3,098	47,728

The total number of volumes added to these special libraries in the course of the year has been 3,764, the largest additions being in Classics, 140; History, 221; Social Ethics, about 650; Philosophy, 1,868; Education, 253.

On the completion of Emerson Hall, the libraries of the Department of Philosophy and of the Department of Social Ethics were transferred to this building, the one from Dane Hall, the other from Harvard Hall.

In order that the library of Philosophy might be greatly enlarged and become worthy of the new building of the Department, Mr. Reginald C. Robbins, '92, of Boston, gave \$4,000. The Robbins Library of Philosophy covers the history of philosophy, metaphysics, logic, æsthetics, ethics, and the philosophy of religion. The collection on psychology, belonging to the Psychological Laboratory, is shelved in the same room. Mr. Robbins's gift has been devoted, at his request, to the other divisions of the field in which the collection was deficient or entirely wanting. Dr. Benjamin Rand, '79, has been placed in immediate charge of the library. Professor Royce has presented to the Robbins Library his remarkable Schelling collection of 151 books and pamphlets, including first editions of most of the philosopher's writings and many volumes of contemporary criticism.

The library of Social Ethics has also grown rapidly, being generously supported by special funds belonging to the Department. Under the care of Dr. D. C. Rogers it has been very carefully reclassified on a system admirably adapted to the needs of the Department, and one which can be equally well applied to the illustrations, charts, etc., of the Department's museum. Mr. Heald, of the Shelf Department in the College Library, had charge of the classification and installation of the Philosophical library, and assisted Dr. Rogers in the classification and renumbering of the library of Social Ethics.

We are again indebted to Dr. K. G. T. Webster, who bore the expense of opening the libraries in the Warren House during the evening from May 1 to the end of the year.

USE OF BOOKS IN THE COLLEGE LIBRARY.

The table on the following page shows the use of books at Gore Hall in 1905-06 as compared with previous years.

The constant decline for three years in the number of books lent from the Library is somewhat puzzling. It is probably due, at least

USE OF BOOKS.	1899-00.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
1. Books lent	63,712	63,673	58,443	63,183	62,861	59,021	56,375
2. Used in the building . (Recorded use only.)	23,715	24,180	22,583	24,924	23,111	26,565	26,558
Total	87,427	87,853	*81,026	88,107	85,972	85,586	83,433
3. Over-night use of Reference Books.							
Gore Hall				386	3,990	6,485	5,662
Harvard Hall	13,460	13,566	13,594	12,861	12,644	14,268	11,452

in part, to the fact that during the last two years we have bought fewer popular books, our income for books having been diminished, first, by a thousand dollars a year withdrawn in the interest of general economy, and then by five hundred dollars more for the purpose of increasing the expenditure for administration. It is noticeable that interesting books placed on the open shelves in the Delivery Room, whether new or old, are in most cases quickly taken up by borrowers, but recently, with the pressure of other work, less pains have been taken to set out on these shelves anything but new accessions. This autumn, interesting books are constantly being picked out from the stack and placed here, and the increase in the number of books borrowed is immediate.

The diminution in the number of books borrowed for overnight use from Harvard Hall is caused by the removal of the reference library of Social Ethics to its new rooms in Emerson Hall. This library is now open in the evening, and its books are therefore not lent for overnight use.

Of the constant use of the reserved books in the reading-room, and of the collections of reference books, periodicals, and United States documents, freely accessible to all, no record is possible. The use of the reading-room has, however, increased so much in the last few years that a second attendant is now needed at the desk, besides the page. A page is also employed in the evening in addition to the single attendant then on duty.

The books shelved in the reading-room, together with those in the various special reference libraries in Harvard Hall, Warren House, and elsewhere, amount altogether to over 72,000 volumes to which

* The decline in the figures for this year is probably to be ascribed to errors in the statistics.

direct access can be had by all students to whom they are of value. In addition the library of the Harvard Union now offers to its members over 7,000 books, mainly literature, biography, history, travel, and sport.

The extent of these open reading-room collections and their growth is shown in the following table:—

OPEN COLLECTIONS.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
Bound Periodicals	3,210	3,266	3,341	3,516	3,288
Reference Books	4,893	4,471	4,645	4,685	4,800
Reserved Books	10,141	10,398	10,514	10,904	11,055
U. S. Documents	4,389	4,523	4,300	4,481	5,199
Totals	22,133	22,658	22,800	23,586	24,342

Cards of admission to different sections of the book-stack continue to be given, on recommendation of an instructor, to all advanced students who need to go directly to the shelves for purposes of investigation in connection with their work. Such students have the same facilities for the examination and study of all the resources of the Library, in their own departments, that the officers of instruction enjoy. The use of these cards of admission to the book-stack is shown in the following table:—

ADMISSION TO THE BOOK-STACK.	1899-99.	1899-00.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
History	78	112	81	90	118	92	122	105
Science	43	30	36	37	45	38	28	36
Art and Archaeology (including Music)	38	33	33	55	46	42	57	28
Literature	90	85	74	80	125	144	107	131
Classics	60	70	58	70	73	62	57	58
Philosophy	19	19	22	27	31	22	18	11
Theology	5	1	1	14	2	9	8	13
Economics and Sociology	12	13	13	16	33	26	38	23
Education	8	4	7	4	25	10	11	9
Geography	2	8	9	15	6	7	5	3
Publ. of Learned Societies . . .	..	..	16	8	7	6	5	1
Total cards given	355	370	350	416	511	458	456	418
Total individuals admitted . . .	279	320	257	301	366	315	354	335
Total times of use	5,826	6,898	6,067	5,551	6,244	6,413	7,172	6,124

The number of individuals admitted is less than the number of cards given out, because the same person often receives permission to use different parts of the book-stack.

During the summer of 1906, in addition to the students of the Summer School, 65 professors and instructors from 46 different colleges came to Cambridge for purposes of study, and were made welcome in the Library. 1,575 volumes have been sent from the Library to 72 different colleges, schools, and public libraries, and in some cases to individuals residing at a distance. This is a large increase over the corresponding number sent in any previous year. So far as is known, no serious inconvenience has been caused to scholars working in this Library by the temporary withdrawal of books wanted elsewhere, and it is a satisfaction to be able to place books which are not often wanted here in the hands of persons who actually need them.

Six hundred and eighty-seven volumes have been lent to Radcliffe College for the use of its students. Application for these books is made through the librarian of Radcliffe, and the books are carried back and forth between Radcliffe College and the Harvard Library by a messenger. Radcliffe students also visit the Library, and have the use of one table in the smaller reading-room. In special cases they are also allowed access to the stacks, but the use of reserved books in the reading-room by our own students is so constant, and the pressure for reading space in the stack is so great, that the access of Radcliffe students is necessarily limited.

The Sunday use of the reading-room is shown in the following table. The room is open, to readers only, every Sunday in term-time from one to half-past five in the afternoon.

SUNDAY USE.	1898-99.	1899-00.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
Sundays open	35	35	35	36	35	36	34	34
Users	5,098	4,846	5,471	4,909	5,073	4,678	4,958	4,737
Average	145	138	156	136	144	129	145	139
Highest number . . .	260	236	226	225	227	173	187	228

SHELF DEPARTMENT.

Mr. Frank Carney, who has charge of the current work of the shelf department, reports 14,647 volumes permanently located in the stack during the ten months ending July 31, making 359,387 volumes so placed of the entire Gore Hall collection. The total number of

volumes and pamphlets passing through the hands of the shelf department has been 26,250. This number covers the work of twelve months, and includes, besides new volumes permanently located, unbound continuations which find their places temporarily in boxes, books rebound and received back from the binder's, and pamphlets. It has been impossible to take up any new sections for reclassification during the year, but, with the help of volunteer service from Simmons College, a beginning has been made in withdrawing old text-books from certain classifications and combining them in a separate text-book collection. Such a collection is of real interest and value to the student of education, whereas in the subjects to which they relate the books only cumber the shelves. It is not proposed to separate in this way the newer books from their proper subjects, nor to remove older books which have distinct historical significance.

Nearly 95,000 volumes remain unclassified, — a number which increases year by year, when no advance is made in the reclassification of the Library. The books in this unclassified collection are principally those relating to general history and geography, theology and ecclesiastical history, political science, Oriental history and literature, bibliography, sports, and some other minor divisions.

No progress has been made in reclassifying the classes mentioned in my last report as needing to be sometime reclassified on account of the unfortunate numbering system adopted in the beginning. The reclassification of German History was completed in the previous year; the reclassification of French History will probably be accomplished in the year now beginning. Other classes, American History, English History, and Folk-lore, numbering over 53,000 volumes, with an annual increase of about 1,250 volumes, should be taken up as soon as possible. French, German, and English literature, and the books on language and classical philology may perhaps be left without eventual reclassification, but of this I do not feel sure.

We have not been obliged to remove from the Library any more groups of books, as has been the case in several recent years. Indeed, some nine hundred volumes of the 25,000 which were reported last year as stored in Robinson Hall and elsewhere have been returned to the Library. These formed a portion of the Von Maurer collection, and have found places here and there among the books permanently classified. We can probably get through the coming year without making any changes, and it is possible that the moderate amount of new shelving which the addition now

being built will contain may tide us over another summer. The process of removing one group after another cannot, however, long be interrupted, and some other place of storage than the basement of Robinson Hall will soon have to be found.

The newspapers in the basement of Perkins Hall — a collection of the highest value and altogether unreplaceable — are unavoidably exposed to some danger and to some inevitable deterioration. It will be worth while to inquire whether a place may be found for them temporarily in the new building of the Law School.

In our own building, new shelving has been built where room could be found in unoccupied corners, along the wall under windows, or along passageways from which the necessary width could be spared. Much of this has been done at only slight expense by using, as material, extra shelves already on hand, and employing the services of one of the men in the Library. Even so, in the crowded condition of the Library, books can only be kept in order by constant shifting. The contents of over 6000 shelves — that is, some 160,000 volumes — have had to be shifted in the course of the year, in order to find room for new accessions. The books already stand in double rows on 700 shelves, an increase of 250 shelves over the number so occupied last year. Under these conditions, it is natural to find that the labor of supplying books to the public has increased, that misplacements become more frequent, that the books themselves are less carefully handled, and that the expense of cleaning increases.

The usual summer examination of the shelves showed 118 volumes missing — 86 from the stack, 32 from the open collections in the reading-room and delivery-room. This is a particularly good showing with respect to the open collections, but a much larger number than is generally missing from the stack. No doubt the increase is in part due to the crowded condition of the stack. 24 volumes, reported missing in previous years, have been found or have been returned in the course of the past year. The net loss of books during the last twenty-three years is 1,141 volumes.

CATALOGUE DEPARTMENT.

Mr. Currier, in charge of the catalogue department, presents the following figures in regard to the work of this department.

The table shows a smaller number of titles catalogued, but it is satisfactory to notice an increase in the amount of permanent and complete work done, and a decline in the number of titles recorded

CATALOGUE WORK.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
Titles catalogued for College Library :					
Full and complete work	9,226	8,517	8,842	7,401	7,860
Continuations, analytical entries, etc.	4,263	4,450	5,578	6,319	5,960
Incomplete work	2,936	3,373	6,301	10,442	6,295
Total	16,425	16,340	20,716	24,162	20,115
Titles for Dept. and Special Libraries	6,594	8,846	4,121	3,562	4,867
Total titles catalogued	23,019	20,186	24,837	27,724	24,982
Cards added to Catalogue :					
Printed cards—					
College Printing Office	16,555	18,135	11,827	6,026	7,243
Library of Congress	2,700	5,440	7,011	7,981	8,558
A. L. A. Publishing Board	3,709	4,076	5,916	3,460	2,457
Total	22,964	27,651	24,754	17,467	18,258
Written cards	8,455	6,728	15,570	23,211	22,168
Total	31,419	34,379	40,324	40,678	40,426

incompletely. That the department has more than kept up with the work demanded of it is shown by the fact that there are now fewer unrecorded books on hand than a year ago. In November, 1905, the rough slips for uncatalogued books numbered 3,808. On October 24, 1906, the number had declined to 3,254. Of this number 1,939 represented books received since May 1, 1906, 656 bore the titles of books received from Professor Norton's library, none of which have yet been catalogued, and 659 were for other books received before the first of last May. Of this last number, only 424 were received previous to January 1, 1906. An examination of these 424 titles shows reasonable cause for delay in almost all cases. Some further improvement may be expected, but under present conditions it is impossible to treat all books with equal promptness. New books and books in immediate demand are properly taken up first, and others have to wait their turn. On the first of each month, special inquiry is made in regard to all books that have been on hand more than four months, so that they may be kept moving if possible.

Beside the ordinary current work of recording new accessions there has fallen into this year's work the cataloguing of Professor Bôcher's Montaigne collection and of the Scandinavian portion of Von Maurer's library. The incunabula of the Riant library and all

other fifteenth century books lately received have been carefully catalogued and their cards will soon be filed. A beginning was made in cataloguing, for the public catalogue, other books of the Riant library, most of which still lack a record on that catalogue. The books of Professor Norton's library which he retains at his house have been noted on the official catalogue, so that we may avoid buying duplicates. Cards for the Von Maurer and Hohenzollern collections, prepared the previous year as the books were received, have been revised and inserted in the official catalogue. No complete and final record of the Hohenzollern collection, except on the shelf-lists, has yet been made. The shelf-list record is complete, and author entries are already, or soon will be, included in the official catalogue. The proof-reading of the Molière Catalogue added another item to the labors of the Catalogue Department.

In the summer, by employing temporary assistance, some advance was made in changing shelf-marks in groups lately reclassified — general works on Africa, books on tropical Africa and on the Dutch East Indies, and part of the collection on South America. The German History, reclassified more than a year ago, still waits, and in the meantime books are found, when called for under their old shelf-marks, by means of a slip catalogue, which gives the new mark corresponding to each of the old ones. Shelf-mark changing is work which can be done by careful persons without previous library experience, but it could be done more rapidly and more surely by a person regularly employed on it, and it would be good economy to employ someone continuously for this purpose.

Careful statistics of the number of titles catalogued and the number of cards inserted in the catalogue show a fairly constant ratio of a little more than three cards to each title.

A few recent experiments to determine the relative cost of cataloguing with ordinary written cards and with the printed cards furnished by the Library of Congress, indicate that, for simple books, the expense is very nearly the same — about 17 cents a title. That the advantage is not clearly on the side of the Library of Congress cards is due to the labor involved in (1) ascertaining whether cards can be had or no, (2) ordering the cards wanted, and (3) preparing the cards for the catalogue when received. This preparation includes the writing in of shelf-marks and subject-headings, trimming down to the size of our own cards, and punching for the insertion of the rod that holds the cards in place in the drawer. Libraries that use cards of the larger standard size are spared these latter processes. The more difficult or troublesome the book, or the greater the number

of copies to be used for additional subject entries or for record in department libraries, the greater is the advantage in using the Library of Congress cards. Moreover, a printed card is in itself superior to a written card, and would be worth having, even if the difference in cost were distinctly in favor of the written work. Compared with cards printed specially for us at the College printing-office, the principal cost of which lies in the composition, the cards from Washington are, of course, very much cheaper.

ORDERING DEPARTMENT AND FINANCIAL CONDITION.

The following table shows the income of our book funds, receipts from other sources for the purchase of books, and expenditure for books during the last six years.

INCOME AND EXPENDITURE.	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
From book funds, —						
Balance from previous year .	\$5,186	\$4,534	\$4,036	\$3,208	\$4,074	\$4,781
Income of the year	19,806	19,972	19,446	19,992	19,560	19,063
Total available	24,442	24,506	23,482	23,200	23,634	23,844
Spent for books	19,908	20,470	20,274	19,126	18,853	19,324
Balance to next year	4,534	4,036	3,208	4,074	4,781	4,520
Special gifts, sales, etc. —						
Balance from previous year .	936	1,932	2,276	1,835	1,707	2,814
Received during the year . .	6,115	3,411	4,457	4,406	4,611	9,484
Total available	7,051	5,343	6,733	6,241	6,318	12,298
Spent for books	5,119	3,067	4,898	4,534	3,504	8,019
Balance to next year	1,932	2,276	1,835	1,707	2,814	4,279
Total spent for books, —						
College Library	\$25,027	\$28,537	\$25,172	\$23,660	\$22,357	\$27,343
Department Libraries (books ordered through Coll. Lib.)	4,484	7,245	7,389	6,214	5,623	9,357
Total	\$29,511	\$35,782	\$32,561	\$29,874	\$27,980	\$36,700

As stated in last year's report, \$500 was withdrawn by the Corporation from the income of the Pierce fund hitherto spent for books, in order that a corresponding increase might be made in the expenditure for services. The figures in the second line of the table for 1904-05 and 1905-06 suggest that almost precisely this difference in the Library's income was the only result. But in fact the figures for

1905-06 include, for the first time, the full income of the Norton fund (used for adding to the Norton Library), so that the income actually available for appropriation by the Library Council — that is, for the ordinary increase in each department — was diminished by more than the amount of the \$500. Counting out both the Norton and the Wales funds (the latter being confined to the benefit of Sanskrit studies, and therefore not subject to appropriation by the Council) the income last year was diminished by \$1,182 — \$500 by withdrawal from the Pierce fund, and \$682 from a decline in the rate of interest. The appropriations having been made at the beginning of the year on the usual scale, it appears that the value of the books received during the year was about \$1,100 in excess of the income. Fortunately, a larger balance than usual had been brought over from the previous year, but at the beginning of another year we are confronted with both a diminished income and a smaller balance than usual.* The annual appropriations will evidently have to be made on a reduced scale, unless some of the money which has been withdrawn from book income can be restored to it.

The unusually large sum of \$8,937.38 was received during the year by gift, to be spent in specified directions. The largest gift was the \$4,646.19 received from Professor A. C. Coolidge; the balance, \$4,291.19, was received from twenty-four different persons. At the beginning of the year, an unspent balance of earlier gifts, amounting to \$2,541.22, was carried over, so that we actually had in hand in the course of the year, with interest allowed by the Treasurer (\$50.72), \$11,529.32 to be spent outright for specific purposes. Owing to the temporary reduction in the personnel of the ordering department, our expenditure was intentionally restricted, and we carry over a balance of \$3,711.02 to the next year. These gifts are, in almost every instance, devoted to purposes for which the ordinary income would not suffice. They cannot take the place

* The balance shown in the table is the balance on the Treasurer's books, and takes no account of an unusually large number of bills which could not be paid before the end of the year. The actual free balance against which new orders might be charged is \$787.

The fact that balances of from three to five thousand dollars are carried forward each year on the Treasurer's books does not indicate that the Library has more money than it can spend, but simply that the difficulty of assigning each of the charges on every bill to one or another of about thirty-five different funds, the precise income on which is not known in advance, makes it necessary to allow a considerable margin in the balance carried forward. Large bills are often carried over from the end of one financial year to the beginning of the next, merely to avoid creating a deficit in the account of individual funds.

of the ordinary appropriations made by the Council, but are intended to extend the Library's purchasing power.

The work of the ordering department, in charge of Mr. Potter, is summed up in the following table, which gives the figures of the last three years and the averages of two previous five-year periods.

WORK OF ORDERING DEPARTMENT.	1890-95. Average.	1895-1900. Average.	1903-04.	1904-05.	1905-06.
New orders, —					
Total received and examined . . .	5,132	7,327	17,397	9,577	9,773
Already owned or ordered	1,193	1,725	6,930	3,428	3,468
Forwarded	3,800	5,086	11,041	5,984	7,038
Estimate of cost, —					
For the College Library	\$9,079	\$10,145	\$16,995	\$13,191	\$12,642
For Departments	2,902	3,223	3,512	2,954	5,092
Total estimated cost	11,981	13,368	20,507	16,145	17,734
Shipments received from abroad . .	28	33	81	61	64
†No. of vols. bought for College Lib.	4,416	5,736	7,870	7,636	11,012
‡Total gifts examined and passed on	16,050	16,455	26,268	20,982	17,754

In comparing the figures of 1905-06 with those of previous years, it must be remembered that the additions to the Hohenzollern collection have affected these figures differently in different years. In 1903-04 and 1904-05, the Von Maurer and other Hohenzollern books were looked up and ordered in the Library, but, being paid for directly by the donor, counted as "books given" when received; they therefore increase the figures in lines 1, 3, 4, 6, and 9 of the table, but not the figures in line 8. In 1905-06, on the other hand, the additions to the Hohenzollern collection, as well as other books bought by Mr. Lichtenstein in Europe, did not enter into the work of the ordering department in Cambridge, but were nevertheless paid for through the College Treasurer. They therefore count as "books bought" and swell the record in line 8 in the table, but do not enter into the figures in the other lines.

Mr. Potter was absent on leave throughout the year, and I tried to lighten the work of his department by suggesting to professors that they should, so far as possible, concentrate their orders on a smaller number of more expensive works, instead of scattering them on a

† Excluding volumes formed by binding periodicals and pamphlets, but including volumes received on exchange account from other libraries.

‡ Including both volumes and pamphlets. See p. 206.

large number of the cheaper books. The table shows no great difference as a result of this proposal, but it should be noted that a very large number of orders for the Robbins Library in Emerson Hall passed through our hands, and that, with these deducted, the figures of lines 1 and 3 would show a substantial diminution.

Mr. Potter spent part of the winter in Algeria. A small appropriation from our funds was placed at his disposal, and he used it to excellent advantage in buying on the spot books and pamphlets relating to the country and its political relations. In fact, he found much more to buy than the money in his hands would pay for, with the result that many additional volumes were received by the Library as an anonymous gift. Mr. Potter also visited most of our European agents, and the Library will doubtless profit as a result of the better personal knowledge thus gained.

In the absence of the head of the department, Mr. Tillinghast kept a careful eye on the progress of the work, and Mr. Tufts carried a large part of Mr. Potter's daily routine, but the work suffered from having insufficient assistance, and the dispatch of orders was necessarily delayed, as was the prompt payment of bills. Mr. Potter justly complains of the insufficiency of his staff, and I regret not having been able to give him more help. He writes: "At least part of the time of an additional assistant is absolutely necessary for work upon the accounts. There have been long delays in the payment of bills. This is a matter which is not only inconvenient and unfair to our agents in delaying the payment, but is also a source of great inconvenience and some danger to the Library: for, with a large number of unpaid bills on hand, it is very difficult to assign funds to new books, and the liability to overdraft on certain funds is greatly increased. With only the present number on its staff, it is impossible to forward orders with even reasonable promptness, and at times during the year the orders necessarily fall behind many weeks."

The most interesting feature of the year's work was Mr. Lichtenstein's twelve months in Europe as our purchasing agent, and the practical completion of the Hohenzollern collection. Mr. Lichtenstein was also charged with collecting books on Northern Italy, to be paid for from the Skinner gift, and books on the Netherlands as the foundation of a John Lothrop Motley collection, for which a first instalment of \$1,000, from an anonymous donor, had been received. Mr. Potter reports as follows:—

"For the Hohenzollern collection, Mr. Lichtenstein bought 3,801 volumes for \$3,443; with the Skinner gift, 460 volumes for \$404:

and for the Motley collection, 538 volumes for \$655. The total cost of these 4,799 volumes was thus \$4,502: to this may be added the cost of binding and freight, \$1,838, the amount of Mr. Lichtenstein's salary and travelling expenses, \$2,162, and Harrassowitz's commission of about \$128: making a total of \$8,622. This result is striking because the average per volume, \$1.83, including all expenses and salary, is well below the general average that the Library pays for books purchased in the usual way. Of course it must be remembered that the Library every year buys a few very expensive works, that it subscribes to numerous societies and periodicals which are costly in proportion to the number of volumes procured, and also buys many new books at approximately the published price. Mr. Lichtenstein, on the other hand, bought nothing but second-hand books, and, with few exceptions, no very expensive works. In addition to this highly satisfactory financial result of the experiment, it is to be noticed that probably in no other way could we have procured so many books on this subject in so short a time, and that Mr. Lichtenstein had the further advantage of being able to examine and select the books themselves, instead of having to depend on bibliographies and catalogues. The Hohenzollern collection has thus been built up in a remarkably short time and at a surprisingly low cost, until it contains (including the shipment yet to come) about 8,000 volumes. The 2,000 volumes still needed to make up the promised 10,000 will consist mainly of continuations. This plan of sending a representative abroad to buy works in one or two special subjects was looked upon at the start as a rather doubtful experiment, but has proved to be a decided success. An incidental advantage comes from the knowledge of the German book trade gained by Mr. Lichtenstein, which will be of great use to the ordering department."

We are fortunate that Dr. Coolidge is willing, for the present and until his promised gift of 10,000 volumes is completed, to pay for the new volumes in the numerous sets lately acquired which are still in progress. It will soon be a serious question for the Library how these sets are to be continued when Dr. Coolidge's gift is completed.

Mr. Lichtenstein himself reports as follows:—

"Being on the spot I was often able to purchase large sets at much cheaper rates from dealers whose catalogues rarely reach us, or who often have no regular catalogues at all. Another advantage I enjoyed in that I had a choice of books to an extent one never has from catalogues; in no other way than by going to Germany itself could the Hohenzollern collection have been completed for years; and even when completed, many of the best sets now a part of the collection most likely would have been lacking. I purchased many books, the titles of which are too obscure to have been purchased from catalogues, and, on the other hand, I refrained from buying many volumes, the titles of which would have proved very attractive

in a catalogue. I bought a part of the Pfister collection, which purchase was only made possible by my presence in Munich; and in this collection there are many treasures, which, I trust, will prove of great value to students of German History and Economics in the years to come.

"In all, I visited about 300 German bookdealers, purchasing books from fifty of them. As for the actual books obtained, the fact is worth mentioning that we have now nearly every German historical periodical, general as well as local, large as well as small. The same is true of the expensive sets of *Urkundenbücher*.

"The works on the history of Bavaria alone number 1,500 volumes, and include a special collection of material relating to King Louis II and his tragic end. Among the many interesting single volumes may be mentioned a manuscript economic survey of Bavaria, made at the end of the sixteenth century, not hitherto printed (the famous *Sahl: Stüfft und Grundtpuech*), and several volumes of manuscript records of the early Bavarian diets. The Nürnberg manuscripts include three volumes of Müllner's '*Relationes*,' a history of Nürnberg families of the seventeenth century, and a history of the Nürnberg guilds, adorned with water-color illustrations of the implements used by the guilds.

"In the field of German history outside of Bavaria, I obtained a complete collection of the original dispatches issued by the Prussian and Bavarian governments during the Franco-Prussian War; a collection of 157 contemporary pamphlets bearing upon the questions discussed in the Frankfort Parliament of 1849; and a small collection of broadsides bearing on the Berlin Revolution of the 18th of March, 1848, including the famous proclamation of Frederick William IV, '*An meine lieben Berliner*,' in which this Prussian king forgives his subjects the riots which they had caused."

STAFF.

The appointment of Mr. Lichtenstein as assistant in charge of European History on his return from Europe marks a new experiment in methods of administration. Heretofore, the work of the Library has been divided strictly according to processes, rather than by subjects. Orders for new books have been looked up and forwarded by one division of the staff; the books when received have been classified for the shelves by another division; and then have been turned over to a third group of workers to be catalogued. The workers in each group are skilled in the particular processes which belong to their division of the work, but none of them are specialists in any one subject of study, and the books which pass through their hands have to be examined anew by each worker. The new method, now under trial in a limited field, proceeds on different lines. A single person — an expert in his own subject — is responsible for all the

processes, — the preliminary looking up of the title, the classification of the book when it is received, and finally its cataloguing. It may be difficult, under the new method, to secure the same degree of uniformity in the work done, but it is expected that a considerable economy in the time and labor put upon any given book will result. If the experiment is successful, it is to be hoped that the same method may be applied to other departments as fast as the Library's means permit.

WILLIAM COOLIDGE LANE,
Librarian.

THE GRAY HERBARIUM.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR,— During the past academic year the acquisitions of the Gray Herbarium both by purchase and gift have been extensive and valuable; the collections made by members of the staff have yielded much material of scientific interest; and the output of the establishment in the way of technical publications has been, it is believed, fully as large as a staff so limited in number and so closely occupied in correspondence and curatorial duties would be warranted in attempting.

The more noteworthy sets of plants received during the year have been as follows :— By gift or in exchange : from the late Professor Franz Buchenau, 201 specimens from the Baenitz Herbarium, in continuation of former sendings noteworthy for the rarity and critical identification of the species included; from the New York Botanical Garden, 150 plants of the Bahamas, Cuba, the Isle of Pines, and Honduras; from Mr. J. G. Jack, 258 plants, chiefly from Japan, Korea, and China; from Capt. John Donnell Smith, 380 plants of Central America, in continuation of his well-known and invaluable *exsiccatae* of that region; from Mrs. J. M. Spencer, 100 admirably prepared specimens of southern European species; from Mr. C. F. Baker, 121 plants of Cuba; from the Royal Botanical Museum at Berlin, by special exchange, 73 portions of type specimens, chiefly of rare South American plants, also 104 miscellaneous duplicates; from the estate of Miss Frances Prince, through Miss Lucy Prince, 950 plants, chiefly ferns from New Zealand, Samoa, and the Fiji Islands; from Dr. J. W. Harshberger, 219 plants of the Pocono Plateau; from the Geological Survey Department of Canada, through Messrs. John Macoun and James M. Macoun, 1,814 plants of the Dominion of Canada; and from the Botanical Museum of the University of Copenhagen, 296 plants of northern Europe and Iceland. By purchase : from Mr. Leroy Abrams, 856 plants of southern California; from Mr. O. B. Metcalf, 459 plants of New Mexico; from Professor Aven Nelson, 555 plants of Wyoming; from Mr. T. S. Brandegee, 660 plants of Mexico, collected by Mr. Carl Purpus; from Mr. C. F. Baker, 582 plants of the Pacific coast of the United States; from Dr. Edward Palmer, 207 plants of northern Mexico, a collection especially rich

in *Cactaceae*; from Mr. A. O. Garret, 306 plants of Utah; from Mr. B. F. Bush, 194 plants from Arkansas and Texas; from Professor E. Koehne of Berlin, 120 specimens of ligneous plants, accompanied by diagnostic figures, in continuation of his well-known *Deutsche Dendrologie*; from Mr. A. H. Curtiss, 239 plants of the West Indies; from Mr. A. A. Heller, 216 plants of California; from Mr. J. C. Blume, 71 plants of Pikes Peak and 222 plants of New Mexico; from Professor J. F. Collins of Brown University, 1,836 plants of Gaspé Peninsula, Quebec, collected by Messrs. Fernald and Collins, and including much duplicate material of high interest to be employed in foreign exchanges; from Mr. W. E. Broadway, 90 plants of the Island of Grenada. Collected by the staff: by Mr. Pringle, 227 plants of Mexico, including many new or rare species; by Messrs. Fernald and Bartlett, 581 plants of New England, material collected chiefly for exchange. (It may be noted that Professor Fernald's extensive collections secured last summer on Gaspé Peninsula were not received at the Herbarium until after the close of the academic year, and are therefore not included in the foregoing enumeration.)

The entire number of specimens received from all sources has been 13,492. The number of sheets of mounted specimens added to the organized portion of the Herbarium has been 12,933. In connection with these figures it should be stated that the present report in scope differs somewhat from those which have preceded. For many years the annual report of the Herbarium has been made to correspond to an academic year from September 1 to August 31. Owing, however, to the fact that the financial year of the University is now reckoned from August 1 to July 31, it seems best from this time forth to adopt the same period for the Herbarium reports, in order that the relation between expenditure and results accomplished may be as clear as possible. To change from the old system to the new, the present report has been drawn to cover a period of only eleven months, namely, from September 1, 1905, to July 31, 1906.

In the last report attention was called to the rapid advance in the price of many important botanical and horticultural works and to the desirability of acquiring desiderata as speedily as possible for the library of the Gray Herbarium. It is a pleasure to say that a generous patron, feeling the pressing nature of this matter, contributed one thousand dollars for the purchase of books. This sum is probably the largest which has ever been available at any one time for the library of the Herbarium, and it is safe to say that no gift of recent years has been more gratefully appreciated at the Herbarium

or expended with more immediate advantage to the establishment. Notable among the works already acquired through this gift have been the following: Cassini's *Dictionnaire des Sciences Naturelles* (71 volumes), a complete set of Rees's *Cyclopaedia* (the English edition in 45 volumes), and a continuous series of the *Revue Horticole* from 1852 to 1904.

Besides the works obtained in the manner mentioned, the library of the Herbarium has acquired many works by purchase and some others by gift, among the latter the following being especially noteworthy: (1) As a transfer from the Botanic Garden, a set of Reichenbachia (4 volumes folio), an elaborately illustrated work on orchids. (2) From Col. T. W. Higginson, two note-books containing interesting memoranda made about 1840 chiefly regarding the wild plants then growing about Cambridge, many of which have since disappeared from the habitats cited. (3) From Mr. F. S. Collins, of Malden, the original manuscript from which the *Flora of Middlesex County* was compiled. This preliminary draft has importance, because it contains many notes relating to details of distribution, habitats, etc., which from lack of space could not be included in the printed work. (4) From Mr. Howard Payson Arnold, of Pasadena, Fée's valuable and beautifully illustrated *Mémoire sur les Cryptogames vasculaires du Brésil*. (5) In the course of the year 48 volumes, chiefly of the older and more technical botanical works, have been transferred from Gore Hall to the library of the Herbarium.

The number of volumes from all sources added to the Herbarium library during the year has been 608 and of pamphlets 509.

Mr. Pringle has completed another successful journey to Mexico. As the remoter parts of that country are gradually rendered accessible by new lines of rail, Mr. Pringle is able to establish new bases of operations and reach regions which have not been hitherto botanically explored. Thus, even after his twenty years of Mexican travels, there is no diminution in the extent and scientific interest of his collections and no indication that the field is being exhausted.

During the past summer Professor Fernald, assisted by Professor J. F. Collins of Brown University, has continued with marked success his explorations in the Shickshock Mountains, obtaining much data of particular interest in relation to the distribution of plants as controlled by the lithological character of the soil.

Miss M. A. Day has continued the editing of the Card Index of new Genera, Species, and Varieties of American Plants — an important work to which reference has been made in past reports.

With some clerical aid Miss Day has this year succeeded in issuing to each subscriber 9,068 cards and bringing the whole work more nearly to date than it has ever been before.

Mention has frequently been made of the pressing need of a better building for the Gray Herbarium. The present structure is only partially fireproof. It is ill lighted even in the day-time and is not equipped, except in a single room, with any form of artificial illumination. It is poorly ventilated and has inadequate plumbing of an archaic and wholly unsatisfactory type. There is no basement under much of the building, and in consequence some of the lower cases are occasionally so damp as to cause moulding of the specimens. The roof was so ill constructed that more than forty years of inspection and repairs involving considerable expense have never made it tight for more than a few weeks at a time. Each year brings greater congestion in the rooms, and every available space has now been used for cases and shelves. The crowding of the herbarium sheets has become so great as to endanger the fragile specimens and greatly impede the work of the staff.

As may be readily inferred, the building is not of a type which could be made satisfactory by repairs or additions; a wholly new structure is needed.

The age and dignified history of the Gray Herbarium, which is one of the oldest and most carefully developed scientific establishments of the University, seem eminently to justify the hope that speedy attention may be given to its pressing need of an ample fireproof building, where its invaluable collections can be safely preserved, and the staff as well as visiting specialists may carry on their work under favorable conditions.

As for some years past, it has been necessary to cover a portion of the expenses of the Herbarium by gifts for present use. Contributions to this end have been gratefully received from more than one hundred and fifty donors, whose gifts are specifically given in the Treasurer's Report. The Gray Herbarium is again greatly indebted to the members of its Visiting Committee, who have, as in past years, given much attention to its needs and liberally aided its work.

During the year the staff of the Herbarium has published twenty-six papers, of which the following from their scientific interest may be specially mentioned:—

Symphoricarpos racemosus and its varieties in eastern America. By M. L. FERNALD. *Rhodora*, VII, 164–167. 1905.

A new *Ranunculus* from northeastern America. By B. L. ROBINSON. *Rhodora*, VII, 219–222. 1905.

The generic concept in the classification of the flowering plants. By B. L. ROBINSON. *Science*, n. s., XXIII, 88-92. 1906.

Some American representatives of *Arenaria verna*. By M. L. FERNALD. *Rhodora*, VIII, 31-34. 1906.

The genus *Streptopus* in eastern America. By M. L. FERNALD. *Rhodora*, VIII, 69-71. 1906.

The salt-marsh *Iva* of New England. By H. H. BARTLETT. *Rhodora*, VIII, 25-26. 1906.

Contributions from the Gray Herbarium, n. s., No. 32. Studies in the Eupatoriae. By B. L. ROBINSON. *Proc. Am. Acad.*, XLII, 1-48. 1906.

Some new or little known Cyperaceae. By M. L. FERNALD. *Rhodora*, VIII, 126-130. 1906.

The identity of *Eriophorum Chamissonis* and *E. russeolum*. By M. L. FERNALD. *Ottawa Naturalist*, XX, 62-65. 1906.

B. L. ROBINSON, *Curator*.

THE BOTANIC GARDEN.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR, — As the Director of the Botanic Garden, I have the honor of presenting the following report for the academic year, 1905–06.

The following memoranda received from Mr. Robert Cameron, Head Gardener, are here submitted as matter of record:—

“The autumn and winter were very mild, and few plants were lost or injured by the cold. During the summer there was plenty of rain, and, therefore, less water was used in the Garden than usual. On the whole, the entire year may be regarded as unusually favorable for all of our out-of-door plants. A serious pest must, however, be mentioned. Within the past few years, insects injurious to vegetation have increased in Cambridge rapidly and have given us a great deal of extra trouble and constant anxiety. But, by the use of poisons, we have accomplished a good deal. We employ about eight pounds of arsenate of lead to one hundred gallons of water. This kind of poison is efficient in destroying all three sorts of pests. One spraying during the season is sufficient for the gypsy moth, but the work must be done early, say, between the 10th and 20th of May. By this one thorough spraying and by applications of creosote to the groups of eggs in winter, the gypsy moth can be kept under.

“We destroy brown-tail moths by removing the leaf-nests from the branches in winter, and burning them, and then spraying the trees when the foliage is just starting.

“The elm-leaf beetle is a more recent and very annoying pest which is extremely destructive. It requires two or three sprayings with poison during the summer.”

Our experience at the Botanic Garden, although limited, justifies the hope that by energetic measures taken early each spring, for a few years, and with faithful coöperation of neighbors in infested localities, these dangerous pests can be kept down, even if not wholly eradicated.

Improvements in details have been made in many of our plots and larger groups of plants, but no radical change has been undertaken in the arrangement. The special groups known as the Virgil and the Shakspeare plots have been somewhat modified, and have attracted a large number of interested visitors. Several popular descriptions of these special plots have been published by visitors, and have led to a considerable correspondence. Since it is possible to arrange such groups in almost any large garden, the fashion is likely to increase a

wholesome interest in plants which belong as much to literature as they do to Systematic Botany. There seems to be no good reason why this device in arrangement should not be somewhat further employed.

Our new plan for replenishing the stock of native plants is working well. It is well known that many of our northern plants are hardly distinguishable from each other when the first frosts have killed them down to the ground. Their accurate identification belongs therefore to the days when they are in full leaf and flower. If at that period they are plainly and securely labelled, their removal with their true names is an easy matter. But this method requires care and a great deal of patience on the part of the collector, who must make at least two journeys to each available clump of plants. Fortunately we have secured the cordial coöperation of two intelligent and industrious collectors who have already forwarded to us excellent specimens of large size, and we are encouraged to carry the work out on a larger scale.

Just fifty years ago, Professor Gray asked the people of Cambridge and Boston for funds to replace the shabby fence which then surrounded the Botanic Garden. At a large expense, a very substantial fence was built on three sides of the grounds. This fence, of course with innumerable repairs, gave good service until last spring, when it had become so weak in certain places that it was actually unsafe. After a thorough reconstruction had been decided on, it was found that a large amount of the old material could be employed in the new fence, and, further, that the line of the new fence on Linnaean Street ought to be moved outward about eighteen inches, in order to reach the true border of the Garden. The new fence has been placed exactly on the line determined by the Superintendent of Streets in Cambridge. For the choice of a color for the new fence, which has given satisfaction to everybody, we are indebted to Professor Herbert Langford Warren, of Garden Terrace.

Both of the dwelling houses at the Garden, and all of the green-houses, are in fair condition, and have needed no expensive repairs during the year. Improvements have been made in the business office of the Head Gardener, by which additional security has been afforded to our large collections of seeds.

Last winter Mr. Cameron spent about three months in the West Indies collecting ornamental and economic plants for the Botanic Garden at Cambridge and the Harvard Experimental Station in Cuba. From New York he went directly to the island of Trinidad. While there he spent several days at the Botanical Garden and at the

Experimental Station at St. Clair and also visited some very large sugar and cocoa estates.

From Trinidad he went to the island of Grenada, visiting the Botanic Garden and several large nutmeg estates. Returning from Grenada to Trinidad, he took the steamer for Jamaica, on the way to Jamaica visiting La Guira, Port Colombia, Colon, and Panama. In Jamaica he examined all the principal gardens in the island, also sugar estates, banana plantations, and logwood groves. Leaving Jamaica he crossed over to Cuba and went direct to the Harvard Experimental Station at Soledad near Cienfuegos. He reports the plants and garden as looking extremely well. He also visited the Botanic Garden in Havana and the Experimental Station at Santiago de las Vegas. Mr. Cameron's expedition was entirely successful. The plants reaching our greenhouses came in good condition and have proved to be welcome additions to our stock. The plants which he despatched to Cuba went from Kingston, Jamaica, direct to Santiago, but between that port and Cienfuegos, their destination, they suffered from a needless delay on the part of the transportation agents in Cuba. Nevertheless, in spite of the risk incurred by such delay and consequent exposure to drought, they reached the Botanical Station in such a state as to warrant their being planted out. Almost all of them have done well.

The Harvard Botanical Station in Cuba has now been in successful operation for about six years. In December, 1899, the Director and Assistant Director of the Harvard Botanic Garden visited the estates of Mr. E. F. Atkins, near Cienfuegos, with the design of seeing whether any part of the grounds could be utilized for experiments in the improvement of the sugar-cane. A suitable tract of land with convenient houses was placed at the disposal of the proposed station, and arrangements were made by which careful experiments could be carried on. The partial success of these seemed to warrant further expenditure of time and money, and therefore, in the following year, Mr. Robert M. Grey, well known to horticulturists for his skill in plant-breeding, was sent to the station for an exhaustive preliminary survey. During the two next years, a good deal of work was done in securing varieties of sugar-cane from the most widely separated localities in the Old and New World, and in firmly establishing these as subjects for experiments in crossing. Mr. Pringle, Botanical Collector, obtained in Mexico a great number of interesting sorts, and carried these directly to the Station. In the meanwhile, a wide range of other tropical plants was procured from different sources, and these were placed under favorable conditions for cultivation and study.

In 1903, Mr. Grey took up his residence in the Station grounds, and since that time he has continued to live there as local superintendent, with his family. The Station, under Mr. Grey's care, has been inspected by many persons who are interested in the improvement of plants, and all visitors have expressed themselves well satisfied with the progress made. The Director, Assistant Director, and Head Gardener, at Harvard, have examined the work, and have kept in touch with it throughout. Monthly reports are received from Mr. Grey, covering the principal features of his studies and detailing his results.

The sugar-cane does not ordinarily produce good seeds. It has been cultivated for centuries from cuttings, and has lost almost entirely its power of reproduction by flowers. Hence, in the artificial production of seeds, it is necessary to convey, with certain precautions, the scanty pollen here and there found in a large field of cane to the pistillate flowers which are imperfect and very few. This painstaking method, which was first carried to success in the sugar-experiment stations in Java, has been proved to be very useful. By its means, new varieties have been produced, some of which have large sugar-content, and others are strongly resistant to disease. But in order to be very successful, these transfers must be made under favorable conditions. At our Station in Cuba, it has been found that the season has much to do with the measure of success. During the period of two years which closed in May, 1906, everything was propitious, and the results have been exceedingly gratifying. We have now several hundred new varieties of sugar-cane, many of which are highly promising, and all of which merit the careful investigation which they are receiving. Mr. Grey is to be congratulated upon the success which his experiments have met with.

In addition to the more important economic plants of the tropics now under observation at the Station, we are cultivating a great number of vegetables on the grounds, in order to ascertain whether the range of Cuban horticulture may not be considerably increased. Many interesting results have already been obtained, and much encouragement is given in this line of practical work.

Pleasant relations have been maintained with the Cuban Experiment Station near Havana, and with other stations in the West Indies. Owing to the fact that our Station, generously sustained by a private individual, Mr. Atkins, is absolutely free of governmental interference, we have not been obliged to suspend operations at any time, even during the recent period of disturbance at Cienfuegos.

It is pleasant to be able to state that Mr. Atkins expresses himself as perfectly satisfied with the results obtained at the Harvard Botanical Station, and that he plans, with the Harvard Botanic Garden directors, for its further systematic development. The results which are of special interest to the Cubans themselves are for the present published in the Official Bulletin of the Cuban Government. The most important of these communications is given both in Spanish and English, in the *Boletín oficial* for June 20, 1906.

Active work has continued in the Economic Museum, and considerable additions have been made. The most important is the beautiful collection of wood-sections prepared under the superintendence of Mr. Henry Brooks, comprising nearly all the woods of the United States. This fine collection which Mr. Brooks left on deposit in the Museum many years ago, and which has been one of our most useful works of reference, has now been given by him to the University, to be retained in Cambridge.

Our next most important accessions have come from the Philadelphia Commercial Museums, being fine representative sets of certain raw materials hitherto lacking on our shelves.

We have now completed the transfer of the Blaschka Glass models from the pasteboard on which they are shipped, to firm plaster plaques. The next shipment, to comprise the work of three years, is now due.

The "Containers" for the installation of Museum specimens have proved so useful that the work of constructing them as required for our exhibition rooms has gone steadily forward.

During his absence in Europe, Professor Robert Tracy Jackson visited Mr. James Lomax in England and secured from him one hundred and sixty-eight micro-sections of carboniferous fossil plants. These, with what Professor Jackson secured in 1899, give the Museum a very complete set of over two hundred of these choice sections. Professor Jackson selected and purchased of Dr. F. Krantz, in Bonn, eighty-two lots, ninety specimens, and of Mr. R. T. Damon, of Weymouth, fifty-seven lots, sixty-five specimens of fossil plants, to fill gaps in the collection. All the above material was purchased from the Elliot C. Lee fund.

It is a pleasant duty to express again sincere obligations to the Overseers' Committee on the Botanic Garden and Museum for efficient aid in carrying on the work at the Garden and Museum.

GEORGE LINCOLN GOODALE, *Director.*

THE ARNOLD ARBORETUM.

TO THE PRESIDENT OF THE UNIVERSITY: —

SIR,—I have the honor to submit the following report on the progress and condition of the Arnold Arboretum during the year ending July 31, 1906.

A collection of shrubs planted systematically in parallel beds for convenient study by gardeners and other visitors has been one of the principal features of the Arboretum for many years. The arrangement of this collection has not, however, proved entirely satisfactory. An attempt to include in it plants not always hardy has increased the cost and difficulty of maintenance, and the presence of such plants in a collection maintained primarily for the benefit of students has often proved misleading. Many of the plants in this collection had become too crowded and therefore unable to show their true characters, and the approaches to the collection and the walks between the beds were inadequate. A plan for a new arrangement has therefore been made, as many of the plants as possible have been moved into temporary quarters, and from the others young plants have been raised. The area devoted to this collection has been slightly increased, and the whole ground has been thoroughly drained, graded, and prepared for planting in the spring of 1907.

The study of the American species of *Crataegus* has been continued during the year. Since January, 1900, 2,281 lots of the seeds of these plants have been sown at the Arboretum, and 450 groups of these seedlings, representing distinct forms, have now been permanently planted on the slope of Peter's Hill.

The interchange of plants and seeds with other horticultural and botanical establishments has been continued during the year. 12,542 plants (including grafts and cuttings) and 593 packets of seeds have been distributed as follows: To the United States, 9,751 plants and 62 packets of seeds; to Canada, 938 plants; to Jamaica, 3 packets of seeds; to Great Britain, 406 plants and 82 packets of seeds; to the continent of Europe, 1,317 plants and 287 packets of seeds; to Japan, 94 packets of seeds; to China, 3 packets of seeds; to Java, 4 packets of seeds; to Australia and New Zealand, 6 packets of seeds; to Chili, 130 plants and 44 packets of seeds; to Argentina, 3 packets of seeds; to the Philippine Islands, 5 packets of seeds. There have been received during the year 5,587 plants and 949

packets of seeds; of these plants 4,501 came from the United States, 207 from France, 460 from Germany, 68 from England, and 349 from Japan, Corea, and China.

During the year 6,971 sheets of dried plants have been added to the herbarium, representing principally plants from North America, Japan, Corea, China, Chili, and the West Indies.

The library has received by gift 2,545 bound volumes and 252 pamphlets.

During the second half of the year instruction has been given by Mr. Jack at the Arboretum to students of landscape-gardening from the Institute of Technology and to University students in forestry; and during the spring he conducted a field class in dendrology of forty special students, largely composed of teachers.

In December Mr. Jack returned to the Arboretum from the East, where he was successful in obtaining a large number of seeds and young plants in Japan, Corea, and northern China. These include several species not previously cultivated. From the valuable herbarium collected by him 650 sheets have been placed in the Arboretum.

In November, 1905, I went to Chili by way of the Isthmus of Panama, returning by the Straits of Magellan and Europe after an absence of five months. This journey was made to study the interesting forest flora of Chili, to obtain material for the herbarium, and to extend the relations of the Arboretum. Collections were made at Panama, Guayaquil, in the neighborhood of Lima, and in central and southern Chili.

Mr. Alfred Rehder has been engaged in Europe during the year on the work connected with the Bradley Bibliography; and Mr. Shaw has made another journey to Mexico to obtain material for the monograph of the genus *Pinus* on which he is engaged.

The following papers have been published during the year:—

Crataegus in Eastern Pennsylvania. By C. S. SARGENT, in *Proceedings of the Academy of Natural Sciences*, Philadelphia, 1905, pp. 577-661.

Species of *Crataegus* Found within Twenty Miles of Albany. By C. S. SARGENT and C. H. PECK, in *New York State Bulletin No. 105* (Report of the State Botanist for 1905), pp. 44-77.

I take this opportunity to again express my thanks to the Trustees of the Massachusetts Society for the Promotion of Agriculture for their annual grant of \$2,500 for the maintenance of the Arboretum, and to the members of the Visiting Committee for their interest and assistance.

C. S. SARGENT, *Director*.

THE CHEMICAL LABORATORY.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,— Drs. Torrey and Baxter were advanced at the beginning of the year to the grade of assistant professor. During the first half-year the teaching staff of the Division was increased by the presence of Professor Wilhelm Ostwald (Geheim. Hofrath, Chem.D., M.D., D.Sc.), of the University of Leipzig. Professor Ostwald offered two courses: Chemistry 17, in English, on the fundamental conceptions of chemistry, and Chemistry 18, in German, on catalysis. The two courses taken together counted as a half-course toward the degrees of A.B., S.B., and A.M. Professor Jackson resumed his lectures in descriptive chemistry (Chemistry 1), the laboratory work in the course being under the charge of Dr. Latham Clarke (Sc.B., Rhode Island College, 1902; Ph.D., Harvard, 1905). The course in industrial chemistry (Chemistry 11), resumed by Professor Sanger, was conducted by him until December, and continued for the rest of the year by Professor William Hultz Walker, of the Massachusetts Institute of Technology (S.B., Penn. State Coll., 1890; Ph.D., Göttingen, 1892). Professor Torrey offered in the first half-year a new half-course, Chemistry 16, on the general reactions of organic chemistry. The half-courses in electro-chemistry (Chemistry 7 and 13) were given by Dr. Arthur Becket Lamb (A.B., Tufts, 1900; Ph.D., Harvard, 1904). The course in advanced physical chemistry (Chemistry 14) was again omitted, but Dr. George Shannon Forbes (A.B. 1902, A.M. 1904, Ph.D. 1905) gave a short course in chemical kinetics (Chemistry 14a) once a week during March and April, the course not counting for a degree. Dr. Arthur Staehler, assistant in the University of Berlin, on leave of absence, has spent the year in atomic weight investigation under the direction of Professor Richards.

The number of students* in the several laboratory courses during the year and in June, 1905, were as follows:—

* This means the number of elections; many students taking more than one course.

	October, 1905.	January 1st, 1906.	June 1st, 1906.	June 1st, 1905.
Chemistry 1	369	345	309	334
Chemistry 3	120	114	100	117
Chemistry 4	33	31	29	31
Chemistry 5a	43	40	37	34
Chemistry 6	28	27	25	17
Chemistry 9	17	14	..	.. (27, Jan. 1, '05)
Chemistry 10 . . . .	..	..	17	20
Chemistry 12	10	8	..	.. (6, Jan. 1, '05)
Chemistry 13 . . . .	..	..	5	4
Chemistry 20a	2	2	2	..
Chemistry 20b	2	2	2	4
Chemistry 20c	9	9	8	3
Chemistry 20d	7	6	6	7
Chemistry 20e	3	3	1	1
Chemistry 20f	5	5	5	4
	<u>648</u>	<u>606</u>	<u>546</u>	<u>576 (+33=609)</u>

The number of students* in the courses in which no laboratory work is given were as follows:—

	October, 1905.	January 1st, 1906.	June 1st, 1906.	June 1st, 1905.
Chemistry 2	104	95	..	.. (88, Jan. 1, '05)
Chemistry 5	44	44	39	42
Chemistry 7 . . . . .	..	..	18	13
Chemistry 8 . . . . .	..	..	73	63
Chemistry 11	31	31	28	31
Chemistry 14a . . . . .	..	..	21	..
Chemistry 15 . . . . .	..	..	20	34
Chemistry 16	13	10	..	..
Chemistry 17	21	17	..	..
Chemistry 18	13	9	..	..
Total number of students under instruction . .	<u>874</u>	<u>812</u>	<u>745</u>	<u>759 (+88+33=880)</u>

The number of students* completing laboratory courses in 1905-06 was 568, as against 608 in 1904-05, while the entire number, completing all courses, was 898 in the last year and 880 in the year before.

The alterations mentioned in the last report, which included the removal of the laboratory course in qualitative analysis, Chemistry 3, to Dane Hall, will give us enough actual working space for the elementary courses for some time to come, although the basement rooms in Dane and Boylston Halls are neither healthful nor properly

* This means the number of elections; many students taking more than one course.

lighted. The organic laboratory in Boylston Hall is over-crowded and the accommodations for advanced students are inadequate. It is increasingly difficult to find space for research students, and researches which demand isolation or separate rooms cannot be undertaken.

One of the courses in which the number of students is increasing is Chemistry 2, elementary organic chemistry, now required for entrance to the Medical School. It is most desirable that this course should include laboratory work, but this is at present out of the question on account of lack of space. For the same reason we cannot offer other courses which are greatly needed. There are now no general courses, open to the elementary student, in technical analysis, sanitary chemistry, inorganic preparations, biological chemistry, or in industrial processes. In other words, while the laboratory is equipped, however unsatisfactorily, for elementary chemical work, and will continue to turn out a certain amount of research even under unfavorable conditions, yet it is quite unable to give properly such general courses as would come under the head of applied science. Students in the School of Applied Science will have to receive individual instruction in the subjects which especially interest them, and much of this instruction must be given in unsatisfactory quarters.

During the year an important addition to the facilities of the laboratory was made by the installation of a plant for the manufacture of liquid air. This consists of a four-stage compressor built by the Norwalk Iron Works of Connecticut, which is driven by a twenty-horse-power Crocker-Wheeler electric motor, and a liquefier which was built at Wesleyan University from plans by Professor W. P. Bradley and under his direction. The plant is capable of producing at comparatively small cost about five liters of liquid air per hour.

We continue to receive gifts of books and journals from Professor Wolcott Gibbs. The book fund of the Class of 1881 has been increased to \$3,500.

The following investigations were carried on in Boylston Hall during the year:—

Professor Jackson, with Dr. Latham Clarke, continued the study of the constitution of curcumine, the coloring matter of turmeric. With Mr. R. D. MacLaurin the study of the complex action of methyl alcohol and tetrachloroquinone was finished, and much progress made with the investigation of the action of other substances on this quinone. With Mr. W. V. Green the chlortriiodbenzol was made and studied.

The following investigations were conducted under the direction of Professor Richards: Dr. Arthur Stahler, assistant in the University of Berlin, determined the atomic weight of potassium by the analysis of potassic chloride. The research was modelled essentially upon that concerning sodium, recently undertaken in this laboratory, but several improvements were introduced. As a result, the atomic weight of potassium was found to be 39.114. Parallel with this research and supporting its conclusions, Mr. Edward Mueller also investigated the atomic weight of potassium by the analysis of potassic bromide. This salt was prepared from very pure potassic hydroxide, obtained through the decomposition of potassic oxalate, in some cases using electrolysis with a mercury cathode. The result for the atomic weight of potassium was also 39.114. Dr. G. S. Forbes converted silver into argentic nitrate with every conceivable precaution, and in this way showed that if silver is taken as 107.93, nitrogen can hardly be lower than 14.037. Mr. Grinnell Jones carried out a somewhat similar research, converting argentic sulphate into the chloride by ignition in hydrochloric acid. The results indicated that, with silver assumed as 107.93, sulphur must have an atomic weight as high as 32.113. Mr. J. H. Mathews conducted an elaborate and varied research on a comparison of the compressibilities, surface tensions, densities, vapor tensions and heats of vaporization of certain organic substances, with the idea of obtaining new light upon the nature of cohesion and its relation to chemical affinity. The interpretation of the results led to interesting conclusions. Mr. F. N. Brink continued the study of the compressibilities of various inorganic liquids and solids, spending much time upon the determination of the absolute compressibility of mercury. Mr. F. G. Jackson studied in great detail the specific heats of various metals and inorganic salts at low temperatures, using the new and highly satisfactory liquid air apparatus of the laboratory. These results are also interesting in their general relations. Dr. L. J. Henderson and Mr. H. L. Frevert began the study of the heats of combustion of a number of pure organic substances with the aid of the new adiabatic calorimeter. The results were interesting in several respects, and showed that the heat of combustion of benzol as ordinarily accepted is too low. Mr. Frevert also completed a careful study of the heats of formation and of solution of certain amalgams, which throws light upon their nature. Mr. B. S. Lacy finished the careful study of the temperature coefficients of certain reversible electrodes, defining with considerable probability the Thomson effect in electrolytes. Mr. R. W. Kent continued his study of the single potential differences of pure

metals in solutions of their salts. Professor Richards received from the Carnegie Institution of Washington a fourth grant of \$2,500, which greatly assisted the progress of several of the above investigations.

Professor Torrey studied with Mr. H. B. Kipper the action of phenylhydrazine upon certain aromatic oxyketones, with interesting results, since substances were obtained which, although they undoubtedly contained the hydroxyl group, are insoluble in aqueous alkalies. With Mr. J. E. Zanetti a study of ethyl promucyl acetate was undertaken, in continuation of the work of the late Professor Hill in the pyromucic acid series. With Mr. P. R. Manahan the velocity of the action of phenylhydrazine on quinone, as influenced by different solvents, was investigated. With Mr. C. M. Brewster the study of fluoresceins and eosins containing the methylketone group was taken up, and with Mr. P. Castleman the reactions of nitroresacetophenone. With Mr. A. L. Pouleur the catalytic effect of different metals on the oxidation of methyl alcohol to formaldehyde was investigated, and with Mr. F. P. Summers a study of vanillin and some related substances was made.

Professor Baxter determined the atomic weight of bromine, both by synthesis of argentic bromide from weighed amounts of silver and by the conversion of argentic bromide into argentic chloride. From this work, if the atomic weight of silver is 107.930, the atomic weight of bromine is 79.953. The following researches were carried on under Professor Baxter's direction: With Dr. M. A. Hines, the investigation upon the atomic weight of manganese, begun last year by the analysis of manganous bromide, was continued by the analysis of manganous chloride. The result for the atomic weight of manganese obtained from the analysis of the chloride is essentially identical with that previously found by analysis of the bromide, the final average from both series being 54.96, referred to silver as 107.930. An investigation upon the atomic weight of cadmium, begun by Dr. Hines and Mr. H. L. Frevert, was continued by Dr. Hines by the analysis of cadmic bromide and further analyses of the chloride. The results from the analyses of both salts agreed at the value 112.47, referred to silver as 107.930. Dr. Hines also began an investigation upon the atomic weight of chromium by analysis of argentic chromate. Mr. F. B. Coffin investigated the atomic weight of cobalt through the analysis of cobaltous chloride, and obtained as a final result the value 59.00, which is identical with that found in this laboratory some years ago. With Mr. G. S. Tilley, an attempt was begun to refer the atomic weight of iodine directly to that of oxygen through the analysis of iodine pentoxide. With Mr. R. C.

Griffin, the study of rare earths was continued, with special attention to the carrying down of ammoniac oxalate by the insoluble oxalates of the rare earths. Mr. Griffin also investigated the adsorption of electrolytes by precipitates. Mr. A. C. Boylston determined the solubility of potassic permanganate between 0° and 65° . Mr. W. Chapin Holmes determined the vapor pressure of iodine between 0° and 55° . Professor Baxter has received from the Carnegie Institution of Washington a third grant, of \$1,000.

Dr. Henderson, besides the investigation with Professor Richards and Mr. Frevert on heats of combustion of organic substances, as mentioned above, studied with Mr. F. N. Brink the compressibility of gelatine and of muscle. Dr. Henderson also carried on in this laboratory a part of his investigation on equilibrium in solutions of phosphates, the rest being done in the laboratory of biological chemistry of the Medical School, where other work was also done by him.

Dr. Clarke investigated new methods for preparing the octanes and entered upon an extensive study of these. A new octane, methyl dinormal propylmethane, was made, and the preparation of other octanes begun. With Mr. R. N. Shreve, Dr. Clarke devised a new method for making isohexane, and synthesized a new dodecane.

Professor Sanger, with Mr. O. F. Black, devised a new method for the determination of small amounts of fluorine.

The following papers were published during the year:—

1. Bromine addition compounds of Dimethylaniline. By C. LORING JACKSON and LATHAM CLARKE. *Am. Chem. Journ.*, XXXIV, 261.
2. On certain Derivatives of Tetrabromorthobenzoquinone. By C. LORING JACKSON and H. A. CARLTON. *Am. Chem. Journ.*, XXXIV, 422.
3. Addition compounds of Quinones and Tertiary Amines. By C. LORING JACKSON and LATHAM CLARKE. *Am. Chem. Journ.*, XXXIV, 441.
4. The action of Methyl Alcohol on Hexabromorthoquinopyrocatechin Ether. By C. LORING JACKSON and P. A. SCHAFER. *Am. Chem. Journ.*, XXXIV, 460.
5. Ueber einige Derivate des Tetrachlorobenzochinons. Von C. LORING JACKSON und R. D. MACLAURIN. *Ber. d. deutsch. chem. Gesell.*, XXXVIII, 4103.
6. On Orthoparadibromorthophenylenediamine. By C. LORING JACKSON and F. W. RUSSE. *Am. Chem. Journ.*, XXXV, 148.
7. On certain Derivatives of Tetrabromorthobenzoquinone. By C. LORING JACKSON and F. W. RUSSE. *Am. Chem. Journ.*, XXXV, 154.
8. On the Action of Chloride of Iodine on Pyrocatechine. By C. LORING JACKSON and M. D. BOSWELL. *Am. Chem. Journ.*, XXXV, 518.
9. Additive Compounds of Arylamines with Aromatic Nitro Derivatives. By C. LORING JACKSON and LATHAM CLARKE. *Proc. Chem. Soc.*, XXII, 88.

10. Ueber die Formel des Curcumins. Von C. LORING JACKSON and LATHAM CLARKE. *Ber. d. deutsch. chem. Gesell.*, XXXIX, 2269.
11. The Transition Temperature of Sodid Bromide: a new fixed point in thermometry. By THEODORE W. RICHARDS and ROGER C. WELLS. *Proc. Am. Acad.*, XLI, 435 (Feb., 1906); also, *Zeitsch. phys. chem.*, LVI, 348 (1906).
12. A new Method of Standardizing Thermometers below 0° C. By THEODORE W. RICHARDS and FREDERICK G. JACKSON. *Proc. Am. Acad.*, XLI, 451 (Feb., 1906); also, *Zeitschr. phys. Chem.*, LVI, 362 (1906).
13. Note concerning the Use of the Nephelometer. By THEODORE W. RICHARDS. *Am. Chem. Journ.*, XXXV, 510 (June, 1906).
14. Investigations concerning Atomic Weights and other Physico-chemical Constants. By THEODORE W. RICHARDS, in collaboration with R. C. WELLS, W. N. STULL, G. E. BEHR, Jr., G. S. FORBES, and R. F. JACKSON. (A preliminary report upon research concerning atomic weights, compressibilities, electromotive forces and thermochemical constants.) *Year-book Carnegie Institution of Washington*, IV, 155 (1906).
15. The Action of Ethylenedibromide on Paranitrosodialkylanilines. Second Paper. By HENRY A. TORREY. *Am. Chem. Journ.*, XXXIV, 475.
16. On the Addition Products of P-nitrosodimethylaniline with certain Phenols. By HENRY A. TORREY. *Am. Chem. Journ.*, XXXV, 246.
17. The Determination of Phosphoric Acid by means of Ammonic Phosphomolybdate. Second Paper. By G. P. BAXTER and R. C. GRIFFIN. *Am. Chem. Journ.*, XXXIV, 204.
18. The Atomic Weight of Manganese. By G. P. BAXTER and M. A. HINES. *Carnegie Institution Year-book*, IV, 149.
19. A Revision of the Atomic Weight of Cadmium. By G. P. BAXTER, M. A. HINES, and H. L. FREVERT. *Journ. Am. Chem. Soc.*, XXVIII, 770; *Zeitschr. anorgan. Chem.*, XLIX, 415.
20. A Revision of the Atomic Weight of Bromine. By G. P. BAXTER. *Proc. Am. Acad.*, XLII, 201; *Journ. Am. Chem. Soc.*, XXVIII, 1322; *Zeitschr. anorgan. Chem.*, L, 389.
21. Equilibrium in Solution of Phosphates. By LAWRENCE J. HENDERSON. *Am. Journ. Physiol.*, XV, 257.
22. Isohexane and a New Dodecane. By LATHAM CLARKE and R. NORRIS SHREVE. *Am. Chem. Journ.*, XXXV, 513.

CHARLES R. SANGER, *Director.*

THE JEFFERSON PHYSICAL LABORATORY.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — The position of the new Law School building suggests the importance of keeping the side of the quadrangle between the Pierce building and the Jefferson Physical Laboratory in reserve for the future enlargement of this Laboratory.

The present building is rapidly approaching its limit of accommodation for elementary and advanced students ; and provision should be made for desirable changes in mechanical equipment. The changes in mechanical equipment and in physical apparatus are more rapid and radical than in other branches of science, and are more expensive. For instance, the storage battery has entirely supplanted the voltaic cells, the Bunsen and Grove cells, which were, twenty years ago, an essential means for instruction in physics and also for investigations. A storage battery plant demands a dynamo, a system of wiring, and instruments of control. We see also in the subject of optics a radical change ; the great spectroscopes with their trains of prisms, once the pride of philosophical cabinets, have been supplanted by entirely different instruments.

The average cost of each research in physics is not less than five hundred dollars, and some of the researches mentioned in the following list of publications of the officers and students of this Laboratory have cost over one thousand dollars.

The cost of elementary instruction is far less than the cost of research instruction ; but the entire Division of Physics agree that research instruction is the life even of the elementary instruction ; for students soon recognize an inherent difference between an instructor who has the spirit of research and one who has not. This spirit also leads to important improvements in apparatus and methods of instruction ; the great changes in the equipment of modern laboratories have come from research, and it is only through research that one can educate competent professors of physics.

The members of the Division of Physics have enthusiastically supported and advanced the method of instruction by research ; and the result of their work is shown in the yearly volumes of contributions from the Laboratory. The volume issued this year is the third of the series and the most important. The Director has received letters from prominent physicists in Europe acknowledging in warm terms their appreciation of the work shown by the publication. This work

is now known in every important university and technical school in Europe and America.

The meeting of the Physical Colloquium is attended every week by a large body of Graduate Students, Instructors, and other students who are interested in the matters under discussion.

The Mechanician, Mr. Thompson, besides his work of actual construction of apparatus, performs an important function in research instruction; for he criticizes the crude ideas of Graduate Students; shows them how to realize their hope of advancing their subject by teaching them the proper use of tools and materials.

In short, the research method of instruction is now the prominent characteristic of the Division of Physics.

The following list comprises the papers published in 1905-06 : —

1. On the Properties of Magnets made of Hardened Cast Iron. By B. O. PEIRCE. *Proc. Am. Acad.*, Vol. 40, No. 22.
2. Experiments on Resonance in Wireless Telegraph Circuits. By G. W. PIERCE. *Phys. Rev.*, Vol. 21, No. 6.
3. On the Manner of Growth of a Current in the Coil of a Nearly Closed Electromagnet as influenced by the Width of the Air Gap. By B. O. PEIRCE. *Proc. Am. Acad.*, Vol. 41, No. 24.
4. On the Thermo-electric Heterogeneity in Certain Alloys, especially German Silver. By EDWIN H. HALL, L. L. CAMPBELL, and S. B. SERVISS. *Proc. Am. Acad.*, Vol. 41, No. 25.
5. Studies in Fluorite: (a) Fluorescence of Fluorite; (b) The Thermo-luminescence of Fluorite; (c) Gaseous and Liquid Inclusions in Fluorspar. By HARRY W. MORSE. *Proc. Am. Acad.*, Vol. 41, No. 28.
6. The Electrostatic Field surrounding Two Special Columnar Elements. By P. W. BRIDGMAN. *Proc. Am. Acad.*, Vol. 41, No. 28.
7. Electric Discharges: (a) Slow Moving Electrical Luminous Effects; (b) Magnetic Field and Electrical Discharges. By JOHN TROWBRIDGE. *Proc. Am. Acad.*, Vol. 41, No. 28.
8. Experiments on Resonance in Wireless Telegraph Circuits. Part 4. By G. W. PIERCE. *Phys. Rev.*, Vol. 22, No. 3.
9. The Spectrum of Hydrogen in the Region of Extremely Short Wave-Lengths. By THEODORE LYMAN. *Astrophys. Journ.*, Vol. 23, No. 3.
10. The Spectrum of Hydrogen in the Region of Extremely Short Wave-Lengths. By THEODORE LYMAN. *Memoir of the Am. Acad.*, Vol. 13, No. 3.
11. Dispersion in Electric Double Refraction. By H. L. BLACKWELL. *Proc. Am. Acad.*, Vol. 41, No. 30.
12. The Longitudinal Vibrations of a Rubbed String. By HARVEY N. DAVIS. *Proc. Am. Acad.*, Vol. 41, No. 32.
13. Architectural Acoustics: (a) Introduction; (b) The Accuracy of Musical Taste in regard to Architectural Acoustics; (c) Variation in Reverberation with Variation in Pitch. By WALLACE C. SABINE. *Proc. Am. Acad.*, Vol. 41, No. 32.

JOHN TROWBRIDGE, *Director.*

THE DIVISION OF ENGINEERING.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—I respectfully submit the following report on the work of the Division of Engineering for the year 1905–06.

The courses of instruction have been substantially the same as those of the previous year, with certain small changes. Two new full courses, Engineering 5*f* and Engineering 5*g*, were introduced by Professor Johnson and Professor Hollis respectively. The first, dealing with problems in structures and materials, was intended for students in Civil Engineering; and the second, relating to problems involved in the design of steam engines and boilers, was planned specially for students in Mechanical Engineering. Both were intended to supplement the instruction in general design, and both seemed necessary in order to give a more thorough drill in the principles of design.

The half-course in heating and ventilation, Engineering 12*c*, was dropped in order to give students more time for other work. It should be restored, as an elective, as soon as the new School of Applied Science comes into full operation.

A half-course in machine design, Engineering 14*a*, was bracketed on account of Professor Kennedy's absence; and the full course in marine engines, Engineering 15*a*, was definitely taken from the list, having been bracketed the year before. At present, the teaching staff in Engineering is not large enough to permit the establishment of a full course in marine engines.

A research course, Engineering 20*a*, Alternating Current Machinery, by Professor Adams, was restored to the list; and a new research course, Engineering 20*d*, Reinforced Concrete, was established by Professor Johnson.

It is doubtful if the research courses in Engineering can be made to reach many students without material additions to the resources of the laboratories, including the equipment and endowment for running expenses. Few students have the money to spend on machinery and apparatus necessary to render experiment and research of great value; and so long as the University cannot afford outlay in this direction, very little can be accomplished in real graduate work. The senior students of the Scientific School, however, have done

some good laboratory work in connection with theses and advanced courses. Only experience on their part is needed to render many of the results obtained by them of value to the profession of Engineering.

Heretofore, brief tables of statistics relating to the standing and numbers of Engineering students have accompanied the reports of divisional work. The rapid change of organization that has taken place in the establishment of the new School of Applied Science renders such statistics of doubtful value, and, with the exception of a short table given later, further data are omitted until the effect of the Graduate School upon the teaching of Engineering shall have been demonstrated.

The preparation of students for professional work under the present system of instruction seems to be in the main sufficient, as is proven by the readiness with which they find employment after graduation. The Engineering Division has always taken an interest in seeing that its graduates are well placed as soon as possible after Commencement; and up to this time no graduate has failed to obtain a situation to start with. During the last two years there have been many more places open than there have been men to fill them, and the Division is in constant receipt of requests for additional men graduated from the University, for employment in engineering positions. Many such applications have to go begging every year. That our graduates are usually acceptable to their employers, is shown by good reports of their work. On the Civil Service examinations for places connected with important public works they have been strikingly successful.

While Engineering has been steadily making its way in the University, and our graduates have become known to employers of engineers, the graduates of the Academic Department of Harvard of classes between 1870 and 1890 have a very inadequate knowledge of the relatively large place occupied by Engineering under the Faculty of Arts and Sciences. The body of instruction is substantial and well adapted to its purpose, viz., the education of young men to begin their novitiate, or apprenticeship, in practical engineering; and that is probably all that any Engineering school can be expected to do. That much is demanded of students of Engineering here is shown by a table comparing the percentage of graduates in the Academic Department and in Engineering during the past six years.

	1900-01.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
Students registered in the College	1992	1983	2109	2073	2009	1899
Graduated	488	449	547	486	461	403
Percentage graduated . . .	25	22.6	25.9	23.5	22.9	21.2
Percentage of graduates tak- ing degrees with distinction	30.9	32.5	30.9	35	27.5	29.8
Students registered as candidates for Engineering degrees . .	168	187	203	202	209	204
Graduated	27	18	20	27	30	29
Percentage graduated	16.1	9.6	9.8	13.4	14.3	14.2
Percentage of graduates tak- ing degrees with distinction	48.1	66.7	60	66.7	30	41.4

It will be seen that the percentage of men successful in obtaining their degrees in Engineering is little greater than half that in the Academic Department; and that, furthermore, the degree with distinction is obtained by a much larger percentage of men graduating in Engineering than from the Academic Department. During the last three years shown in the table, the requirements for entrance to the Scientific School have been up to the level of the requirements for entrance to the College. Considering that the Department, though founded in 1847, really began instruction as a modern department only within the last fifteen years, and that graduates in considerable numbers date only a few years back, the progress has been satisfactory, and should be better known by the whole body of Harvard graduates.

It is hoped that the new Graduate School of Applied Science, by giving students one year more of training, may turn out men still better fitted for the profession of Engineering, and in that way give Harvard the same reputation in this subject that the University has already attained in Law and Medicine. The new School will be valuable to advanced students in three ways: first, a young graduate who has been in practical work some years may return to college to supplement his information on subjects wherein experience has proven him to be weak; second, a student who has completed four years of more general study may continue for one year the study of some highly specialized subject, for the purpose of making it his profession; third, a student who has completed four years of study in one line may devote a fifth year to strengthening himself along collateral lines,—as, for instance, a mechanical engineer may study the applications of electricity, or an electrical engineer may add to his knowledge of railroading. Many such related branches may be studied with great profit after the student has been emancipated from undergraduate work. It is doubtful, however, if the years in the

Graduate School can be used economically for broadening the education of engineers in the sense of pursuing the study of literature or history. This study should be confined to the undergraduate period, so that no time may be lost by a student who has after graduation from an undergraduate department definitely adopted a profession.

It is due to Professor Hughes that the Engineering Camp at Squam Lake has succeeded so well. While the friends of the University have given the land and buildings, so that we now have room on our own property for all the instruction in surveying and railroading, Professor Hughes has made the courses entirely self-supporting and effective. During the past summer there were 134 students, taking courses which amounted in all to 210½ full-course enrolments. Mr. Hughes has also been able to contribute materially to the content of summer residents about Squam Lake by his assistance and advice in repairing the dam at the outlet of the lake, thus preserving the water from waste.

Attention was called in last year's report to the teaching of elementary mechanics under Professors Johnson and Huntington. It has been so eminently satisfactory that the Division voted in the spring to extend the two-hour period to calculus and the first-year mathematics for Scientific School students. By this system there will be three two-hour periods per week for these subjects. It amounts really to one hour of conference after each lecture, during which time the students do their work in the presence of instructors. The close contact thus established between students and instructors has proven most stimulating, and will, it is hoped, become increasingly valuable.

During the senior year in Mechanical Engineering, the method of concentrating attention on one subject at a time was followed with great success. The work of the student was limited, for instance, during twelve weeks to the single subject of designing, and the quality of the work turned out as compared with that of other years has seemed to establish beyond doubt the value of this kind of instruction to older students of Engineering. The Tabular View interferes seriously with the extension of this method to many subjects.

The growth of engineering laboratories at Harvard has been gradual, and it has not kept pace with the laboratories of the larger universities either in the East or the West. A sufficient laboratory equipment is valuable in more ways than one, although the best machinery that can be obtained quickly falls behind the times unless constantly renewed. Many of the machines procured for the instruction of students become in a few years fit only for the museum, thus

inevitably accumulating in any university a large amount of useless machinery. While there is room for much judgment in the selection of machinery that will yield the maximum amount of benefit to students and professors, nevertheless the above situation must be faced in the development of an engineering laboratory. If a machine has served to establish only one fundamental principle, it has justified the outlay for its purchase, and it may be laid aside without regret.

Professor Kennedy spent the entire year on leave of absence, the greater part of which was devoted to the study of commercial design of machinery at Lynn, in the shops of the General Electric Company. Professor Hollis was absent during the first term.

The following list of papers was published by the members of the Division during the year : —

An Analysis of General Flexure in a Straight Bar of Uniform Cross-Section. By L. J. JOHNSON. *Transactions of American Society of Civil Engineers*, Vol. LVI, 1906.

The Graduate School of Applied Science. By J. L. LOVE. *The Harvard Illustrated Magazine*, November, 1906.

The Distribution of Pressure and Current over Alternating-Current Circuits. By A. E. KENNELLY. *Harvard Engineering Journal*, Vol. IV, Nos. 3 and 4, November, 1905, and January, 1906; Vol. V, No. 1, April, 1906.

The Harmonic Analysis of the Semicircle and of the Ellipse. By A. E. KENNELLY. *Harvard Annals of Mathematics*, Vol. VII, January, 1906.

A Graphic Method of Determining the Ratio of Speed-Voltage Variation in Shunt Motors. By A. E. KENNELLY. *The Electrical World*, Vol. XLVII, June 28, 1906.

The Resistivity Temperature-Coefficient of Copper. By A. E. KENNELLY. *The Electrical World*, Vol. XLVII, June 30, 1906.

I. N. HOLLIS.

THE PSYCHOLOGICAL LABORATORY.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—The last year represents a most important epoch in the development of the Harvard Psychological Laboratory, as its new home was opened in Emerson Hall. To be sure, the needs of the Laboratory were not the only and perhaps not even the most influential motive for the erection of Emerson Hall, yet perhaps in no department was the need for the new building so intensely felt. Experimental psychology was housed until Christmas, 1905, on the second floor of Dane Hall. There Professor James had opened the psychological workshop in 1891, and the two rooms with which he began formed to the end the chief part of the available room. It is true that a part of the old adjacent lecture room had been added in the meantime, and, as the demand for independent rooms increased, the space had been partitioned into smaller and smaller parts. Thus we had finally eleven rooms in Dane Hall, of which the best one was used for a library, and the only large one had to be the seminary room, workshop, and instrument room at the same time. Hardly any room was really adapted to its purpose. The research work was therefore crippled in every direction, and from year to year this was more and more felt on account of the steady increase of research students. The work in animal psychology lacked almost every modern convenience.

All this has been changed entirely since, on the first of January, 1906, the whole third floor of Emerson Hall was given over to the interests of experimental psychology. The psychological work is not confined to that floor: the introductory psychology lectures and the psychological seminary find their quarters on the first floor; the psychological library, which contains the chief literary resources of the Laboratory students, is coupled with the Robbins Library in the large reading room of the second floor. The large attic of the fourth floor is also given over to the interests of the Laboratory and used especially for storing the bulky pieces of apparatus. But the real working place of experimental psychologists is the third floor, with its twenty-seven rooms, whose mutual relation and whole equipment in every detail had been planned from the start with reference to the special needs of a psychological laboratory. The fullest effectiveness of the new research rooms would, of course, not have been reached had not the generosity of our benefactors supplied the Laboratory with ample funds for a perfectly adapted equipment of the rooms with carefully planned furniture, and, especially, with ample additions to the instrumentarium and to the collection of demonstration objects.

I have published a full history of the Emerson Hall movement and a description of the new building in the second volume of the Harvard Psychological Studies; I beg the permission to repeat from it in the following the most essential points as to the arrangement of the Laboratory.

Eighteen rooms of various sizes with outside windows form a circle around the central hall, which is well lighted by large skylights; but at each end of the hall itself two large windowless spaces are cut off and each of these is divided into three dark rooms. We have thus twenty-four rooms, besides coat-room, toilet-rooms, etc. A further stair leads to the wide attic, which is mainly a store-room for the institution.

In order that the Laboratory should be adaptable to the most diverse purposes, the permanent differentiation of the rooms has been kept in narrow limits. It seemed unwise to give from the first every room a special line of research, as the preponderance of special interests may frequently shift; there are years when perhaps studies in physiological and comparative psychology make the largest demand, and others in which studies in aesthetical and educational psychology stand in the foreground. A thorough-going specialization, by which special rooms are reserved for tactual studies and others for chronoscope work or for kymograph researches, allows of course certain conveniences in the fixed arrangement of instruments and a certain elaboration of equipment that is built in, but it very much impairs the flexibility of the whole laboratory, and has thus not seemed advisable for an institution whose catholic attitude welcomes investigations in every psychological field.

To be sure, certain constant requirements have demanded a special fitting up of one room as a workshop, one room for the more delicate instruments, one for the beginning course in experimental work, a lecture-room for the courses in comparative psychology, a photography room, a battery room, a sound-proof room, the chief animal rooms, and the dark rooms. We have seven light-proof rooms, finished in black, of which two have outside windows for heliostats; of the others, four can be used for optical research; the longest one contains the photometer. Six other rooms, including the lecture-room, may be darkened by opaque blinds. One contains a partition with a door and a grooved window-frame fitted with screens in which openings of any desired size and shape may be cut. This window is opposite the main door of the room, and opposite this, across the central hall, some sixty feet away, is the door of another dark room; optical stimuli can thus be given from this window to a subject over seventy feet away.

Several rooms are fitted up with special reference to the investigation of the various forms of organic movement, animal behavior and intelligence. As one result of several investigations in animal psychology already pursued here, the Laboratory has a considerable number of devices for testing and making statistical studies of the senses and intelligence, methods of learning and emotional reactions of animals.

Adequate provision is made for the keeping of animals in a large, well-lighted, and well-ventilated room. Instead of having aquaria built into the room, an aquarium-table eighteen feet long has been constructed to support movable aquaria of various sizes. Whenever it is desirable for the purpose of an investigation, any of these aquaria may be moved to the research room of the investigator or to such quarters as the special conditions of the experiment demand.

The vivarium-room contains, in addition to provisions for water-inhabiting animals, cages of a variety of forms and sizes. The largest of these cages, six and a half feet high, six feet wide, and four feet deep, may be used for birds, monkeys, or any of the medium sized mammals. Cages for rabbits, guinea-pigs, and other small animals are arranged in frames which support four double compartments. Similarly, small cages suitable for mice, rats, and other small rodents are in supporting frames which carry four of the double cages, each of which is removable and may be carried to the experimenting-room at the convenience of the experimenter.

In a large unheated room above the main Laboratory are tanks for amphibians and reptiles. These tanks, since they can be kept at a low temperature during the winter, are very convenient and useful for frogs, tortoises, and similar hibernating animals.

In view of the prime importance of electricity to a modern psychological laboratory, a rather elaborate system of wiring has been designed and built in. The unit of this system is a small delivery-board, six inches wide by eight inches high, which carries the following five circuits: *a*, a time-circuit for running magnetic signals; *bb*, two low-tension circuits for chronoscope, bells, signals, etc.; *c*, a high-tension alternating current (110 v. and 60 phases) for alternating current motors, to be used where great constancy of speed is desired; *d*, a high-tension direct current (110 v.) for direct current motors, where it is desired to vary the speed continuously (by the introduction of resistance). Two such delivery-boards have been set on opposite walls of all except the smallest rooms, which have but one board. Circuits *a* and *b* are represented on the board by binding-posts, while the high-tension currents, *c* and *d*, appear as flush, protected sockets that take a double-pole plug.

The instrument-room is equipped with large dust-proof cases for holding the more delicate and valuable instruments. The larger unused pieces are stored, out of sight but readily accessible, in an attic which has a clear floor-space of something more than half the total area of the Laboratory. Dust-proof cases for demonstration and class-work material are provided in the lecture and class-rooms.

The shop contains a wood-working bench with two vices, tool-racks, shelves, drawers, cupboards, and stock-racks, for the use of students; and a 9-inch lathe, circular saw, grinding and buffing-machine, separate bench, vice, racks, and drawers for the use of the mechanic. The machinery is run by a 5 h. p. electric motor suspended from one of the outside brick walls, on brackets. One who selects the equipment of such a shop has to weigh carefully the respective merits of circular and band saws; the latter undoubtedly lends itself to a greater variety of uses, but it is also a far more dangerous machine to have running in a room to which students are to be given access. This latter consideration determined in the present case the choice of a circular saw.

The Laboratory contains one room which is virtually sound-proof. A double door separates it from the adjoining experimenter's room, and double doors also separate this from the main hall. The wall between these two rooms consists of two layers of plaster with special deadening material inserted between. Two small tubes, ordinarily stuffed with felt, connect these rooms. When the acoustical stimulus is a tuning-fork, it is placed in a distant room, connected with one of the *b* circuits of the sound-proof room, and then with a telephone receiver near the subject's ear.

The photographic-room contains the ordinary sink, red lights, shelves, etc. The indirect entrance is light-tight when the door is not closed, so that the experimenter may pass in and out even when developing is going on. This room, like all the others which have no window (except the sound-proof room), has forced ventilation.

The class-room is designed for the experimental training-courses. It has eight of the regular delivery-boards, ten tables, instrument-case, blackboard, and sink.

The lecture-room for specialized courses in comparative and experimental psychology seats eighty students. It is provided with two Bausch and Lomb electric projection-lanterns, horizontal and vertical microscope attachments, and attachment for the projection of opaque objects. On the lecturer's platform, besides the blackboard, projection-screen, and chart-racks (capable of holding twenty charts), is a large demonstration table provided with a delivery-board, water, gas, sixteen chart-drawers, two other drawers, and three cupboards.

As has been said before, the general psychology course of the University is not given on the laboratory floor, but downstairs in the large lecture-hall with about 400 seats. A number of large demonstration instruments of the Laboratory serve the special purpose of this course; this hall too has its own stereopticons.

The work during the second half-year has fully proved the complete success of the new Laboratory and its equipment. The transition was an easy one in every respect and, after a few weeks, everything was in smooth running order. The fact that every investigation could be housed in a special room, and that a mechanic in the excellent workshop was able to give technical assistance at any time, aided the work immensely and promises for the future a greatly increased effectiveness for the research work of the advanced students in human and animal psychology. In a similar way the psychological lecture courses have received a new stimulus through the splendid technical equipment, especially through the excellent arrangements for stereopticon work with microscopic and reflectoscopic attachments.

When we closed our first year in the new home, the Laboratory published the second volume of the *Harvard Psychological Studies*, a volume of 644 pages, with many plates, charts, and diagrams. Of course, it does not contain any work from the new Laboratory, inasmuch as the manuscript for the volume had to be completed at about the time we moved from the old quarters to the new. It presents, therefore, merely the work done in Dane Hall and thus brings the first period of the Laboratory to its literary end. The character of the volume corresponds entirely to that of the first volume, but, encouraged through the prospect of the new Laboratory, we have risked going over to a form of publication which represents a greater independence than that of the first volume, which appeared two years before. At that time the *Harvard Psychological Studies* were merely a supplement volume of the *Psychological Review*, included in the series of supplement monographs published by MacMillans. That form of publication had the advantage that it profited from the subscription list of the *Psychological Review*. Yet it became evident that it was not to the advantage of the Harvard Laboratory to have that first volume of 650 pages simply included in a list of, on the whole, short monographs. The Laboratory has thus completely separated its publication from the *Psychological Review* and has published a second volume as an independent University undertaking with Houghton, Mifflin and Company.

The new volume, edited by the Director of the Psychological Laboratory, contains twenty-three experimental investigations. Several of

them are direct continuations of researches published in the first volume, in accordance with the continuity which has run through all the Laboratory work for years. The largest number is grouped under the heading, "Association, Apperception, Attention." There belong the investigations of L. A. Turley on Inhibition and Reënforcement; of F. H. Rousmaniere on Certainty and Attention; of H. Klein-knecht on The Interference of Optical Stimuli; of T. H. Haines on Subjective and Objective Simultaneity; of C. H. Burnett on The Estimation of Number; of B. T. Baldwin on Associations under the Influence of Different Ideas; of C. H. Toll on Dissociation; of R. M. Yerkes and F. M. Urban on Time-Estimation.

On the psychology of feeling, the volume contains the investigations of F. M. Urban on The Expression of Feelings; of J. A. H. Keith on The Mutual Influence of Feelings; of C. H. Johnston on The Combination of Feelings; of E. H. Rowland on The Aesthetics of Repeated Space Forms; of L. E. Emerson on The Feeling Value of Unmusical Tone-Intervals. The field of sense psychology is represented by the researches of E. B. Holt on Eye-Movements during Dizziness and on Vision during Dizziness; of F. P. Boswell on Visual Irradiation; and of G. V. Hamilton on Stereoscopic Vision and the Difference of Retinal Images. There are further the papers of B. A. Lenfest on The Accuracy of Linear Movements; and of C. L. Vaughan on The Motor Power of Complexity. From the field of animal psychology, finally, the volume contains the investigations of R. M. Yerkes on The Mutual Relations of Stimuli in the Frog; of J. E. Rouse on The Mental Life of the Domestic Pigeon; and of J. C. Bell on The Reaction of the Crayfish.

Of these papers those of Boswell, Johnston, Haines, Burnett, Vaughan, and Bell were Doctor dissertations in Harvard; that of Miss Rowland, in Radcliffe; that of Lenfest, in Yale University (all the work of this investigation was performed in the Harvard Laboratory, and the Director of the Harvard Laboratory was invited by the Yale Faculty to serve on the committee for the Yale Doctor's Degree). The papers of Emerson and Rouse have been accepted as Doctor dissertations by the Department of Philosophy. The paper of Miss Rousmaniere secured for her the Wilby Prize in Radcliffe College.

The investigations with which the work of the new Laboratory has started proceed along exactly the same lines as those which are indicated by the titles in this volume. As in previous years, Professor Holt has special control of the work in human psychology, and Dr. Yerkes of the investigations in animal psychology.

HUGO MÜNSTERBERG, *Director.*

THE OBSERVATORY.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—The last year has been one of disappointment, financially. It has always been my belief that while it was easy to expend large sums of money on Astronomy, it was a matter of great difficulty to do so in such a way as to secure a great return for a moderate outlay, and that, if this condition was attained, the friends of the Observatory would see that its needs were supplied. The management of the last thirty years has brought the Observatory into the condition in which, by the expenditure of a reasonable sum, a very large scientific output could be secured. This is illustrated by the Anonymous Gift of \$20,000, made in 1902. It furnished reflecting telescopes of 24 and 60 inches aperture, and added to the building holding our photographs a fireproof wing of brick, three stories high, capable of storing 200,000 glass plates. Equally striking results in current work were obtained in 1903 with a small appropriation from the Carnegie Institution. Accordingly, the Visiting Committee of the Observatory attempted to raise the sum of fifty thousand dollars, which would have provided a fireproof building for the library, published a large amount of the material now ready for printing, and enabled a suitable study of the collection of astronomical photographs to be carried on for several years. Unfortunately, this attempt failed, the subscriptions being made on condition that the whole was secured, and amounting to less than one-third of the entire sum.

OBSERVATORY INSTRUMENTS.

East Equatorial.—The observations with this instrument have been made by Professor O. C. Wendell, and have been of the same general character as in previous years. Fourteen thousand photometric comparisons have been made, principally with the polarizing photometer with achromatic prisms. About one-half of these measurements relate to stars of the Algol type, and serve to determine their light curves and times of minima. Measurements for determining the correction to the period have also been made, when the light was varying most rapidly. Many stars of doubtful variability have been observed, since the accuracy of the measurements permits even slight changes to be detected with certainty. Observations of the asteroid

Iris (7) have been continued, 544 measurements having been made. The observations show that the change in light in this asteroid had become nearly insensible in July, 1906. 2800 observations of 32 stars having spectra of the fourth type have been made, to determine the amount and nature of their variation in light, if any.

With a second photometer, adapted to the measurement of adjacent stars, observations of several objects of a miscellaneous character have been made. Twenty-nine eclipses of Jupiter's satellites have been observed photometrically, making 814 in all.

Meridian Circle. — The determination of the final constants for the reduction of nearly all the zones observed between $-9^{\circ} 50'$ and $-14^{\circ} 10'$ has been completed. The construction of tables for the conversion of the provisional places of the zone stars into final places has been begun, and these final places have been obtained for about one-fourth of the zones. The manuscript of a volume of the *Annals* which will contain the observations of the fundamental stars is nearly complete, and it is expected that this work will soon be given to the printer.

Miss S. C. Bond has continued the reduction of the observations made by the late Professor Rogers during the years 1879 to 1883. The work of obtaining the preliminary data is finished, and the determination of clock rate has been begun.

12-inch Meridian Photometer. — With this instrument 65,488 settings have been made by the Director, on 141 nights. In all, 576,764 settings have been made in eight years with this instrument, and the work for which it was constructed may be regarded as substantially completed. A standard scale of photometric magnitudes, for all stars brighter than the tenth magnitude, was furnished by the 4-inch Meridian Photometer. As the results of more than a million measures, extending over twenty-five years, many thousand stars distributed over the whole sky have been measured. Standards of magnitudes on a uniform scale have thus been furnished for the brighter stars. This work has been extended to the stars from the tenth to the thirteenth magnitude, by the 12-inch photometer. So many stars have been measured, from the North Pole to declination -25° , that a continuance of this work does not seem desirable. It has proved an accurate, rapid, and convenient instrument, and although its work is differential, its results are reduced to the absolute standard scale by frequent measurements of stars already observed with the smaller instrument. The work might be continued to the South Pole, by sending this photometer to Arequipa, but measures of faint stars with a photometer attached to the 13-inch Boyden

Telescope partially supply this want. Had the mounting of the 60-inch Common Telescope been completed, measures of the faintest stars visible would already have been undertaken. It is expected that this will be done during the coming year. In view of the improved method of determining the magnitudes of very faint stars photographically, it may be a question whether it will be worth while to undertake an extensive series of measures of them visually, especially as it is probable that much of the time of the 60-inch will be occupied with other visual work.

HENRY DRAPER MEMORIAL.

The number of photographs taken with the 11-inch Draper Telescope was 648, making 16,679 in all; with the 8-inch Draper Telescope, 848, making the total number 34,275. The entire number of photographs of the stars taken at Cambridge during the year is 4,580. Fourteen eclipses of Jupiter's satellites and six occultations have been successfully photographed with the 11-inch Draper Telescope. Three of the occultations were obtained with the apparatus having a revolving plate. 691 stellar spectra on 588 plates have been studied in detail and classified by Miss Cannon. They supplement the work contained in Volume XXVIII, extending it to still fainter stars. In this research, three stars, H.P. 934, H.P. 3080 and $+44^{\circ} 3639$, have been found to show the second series of hydrogen lines.

Mainly from the study of the photographs taken with the 8-inch Draper, 8-inch Bache, and 24-inch Bruce Telescopes, Mrs. Fleming has found 17 new variable stars, 4 stars of the fourth type, 8 of the fifth type, 7 in which the hydrogen line $H\beta$ is bright, 3 gaseous nebulae, and 3 in which the spectra are peculiar. One of the latter, A.G.C. 23073, has a spectrum like that of ζ Puppis. One of the variables is of the Algol type. Two of them have periods of about half a day, and were found from an examination of the plates having successive exposures of 30 minutes throughout the entire night. The spectrum of a peculiar moving object in R.A. = $9^h 38^m.1$, Dec. = $-79^{\circ} 58'$ (1875), appears on a Bruce plate taken on January 30, 1906. The hydrogen lines have been found to be bright in 12 known variable stars, V Andromedae, RR Andromedae, S Lyncis, S Ursae Minoris, U Draconis, TU Cygni, Z Cygni, R Equulei, RR Aquarii, T Pegasi, RS Pegasi, and Z Cassiopeiae. The spectrum of SV Cygni is of the fourth type. An examination of two excellent spectrum plates of the Large Magellanic Cloud, taken with the Bruce Telescope, led to the discovery of a number of additional objects

having bright lines in their spectra. These have not yet been identified and are not included in the above list. Seven meteor trails were found on chart plates. One new variable was found by Miss S. E. Breslin. An examination of the charts of Hagen's Series IV, and a comparison with photographs, has been made by Mrs. Fleming, to confirm the identification of the variables and to check the configurations of the comparison stars given in his catalogues for that Series.

BOYDEN DEPARTMENT.

The Arequipa station has remained in charge of Mr. R. H. Frost, the senior assistant there. The number of photographs taken during the year with the 13-inch Boyden Telescope is 325, making 11,418 in all; with the 8-inch Bache Telescope 227, making 37,263. The total number of stellar photographs taken during the year is 2,343. The Bache Telescope, having been in nearly constant use for twenty years, required important repairs. It was accordingly sent to Cambridge in November, 1905, where the lens was recentered and various changes made in the mounting. The most important of these were a new driving screw and gear, as both of them showed signs of eccentricity. It will probably be returned to Arequipa next winter, but its absence explains the great diminution in the number of photographs taken. The principal work of the 13-inch Telescope, like that of the 11-inch Telescope, has been photographing the spectra of stars of about the fifth magnitude, and thus extending the work of Volume XXVIII to the fainter stars. Several important changes have also been made in this instrument, including a new tailpiece, and a mounting for the prisms.

The amount of visual work this year has been larger than usual. 362 observations of 50 southern variables of long period have been made, by Argelander's method, mainly by Mr. P. P. Hill. 4,640 photometric settings have been made with the meridian photometer, 5,372 with the wedge photometer, and 2,080 with the photometer for measuring double stars. Total 12,092. The principal work has been the completion of the measures of the comparison stars of the 50 southern variables, and the continuation of the observations of the sequences of *Durchmusterung* stars in the zones -39° , -49° , -59° , etc.

Meteorological observations, three times a day, have been continued as in former years, and visual observations of the cloudiness have been made hourly throughout the year.

BRUCE PHOTOGRAPHIC TELESCOPE.

The number of photographs taken with the Bruce Photographic Telescope is 638, of which 139 are spectrum plates and 146 charts having exposures of one hour, or more. The total number of photographs so far taken with this instrument is 8,142. The Bruce Telescope is now proving to be the most valuable instrument belonging to the Observatory, and the demand upon its time is proportionally great. With it we can photograph the spectra of fainter stars than with any other instrument we possess. Not only can charts showing very faint objects, like the ninth and tenth satellites of Saturn, be photographed with it, but its great field has developed tempting opportunities for the study of large regions, such as the Magellanic Clouds and the dark spaces in the Milky Way. In fact, in nearly every field, its advantages over the smaller instruments are becoming more obvious, and are rendering its constant use more important. These photographs are proving so useful here, that it is unfortunate that they should not be employed for similar work elsewhere. This has already been done to a certain extent mainly by the use of contact prints on glass. A further extension of such work is much to be desired. For many years, the offer has been made to furnish such copies at cost to any one who may desire them, and where good use can be made of them they are often sent without charge. The number of stars on such a plate with a long exposure often exceeds 300,000. The results that may be obtained from an examination of these photographs are well illustrated by the study of the Large Magellanic Cloud, now being made by Miss Leavitt. In it, she has discovered 816 variable stars, making the total number she has found, this year, 993, or 2,122 in all.

BLUE HILL METEOROLOGICAL OBSERVATORY.

The Observatory continues to be directed and supported by Mr. Rotch. The observations, which have been made during the past twenty-one years, under uniform conditions of exposure and environment, are being utilized by the Solar Commission in its investigations of the relations of meteorological observations with solar phenomena. The upper air was explored from two stations on this continent, and, in coöperation with M. Teisserenc de Bort, Director of the Trappes Observatory (France), also over the North and South Atlantic Oceans. On Blue Hill, monthly kite-flights were made, of which the mean altitude was 7,120 feet above sea-level, and the maximum height in any flight 11,860 feet, both being

slightly greater than in the preceding year. The ascensions of *ballons-sondes* at St. Louis during the different seasons were completed by a series of twenty-one ascensions during the spring. All the *ballons*, with their instruments, were recovered, some of them having reached a height of about ten miles, and the existence of a relatively warm stratum, approximately seven miles above the earth, was demonstrated. The exploration of the upper air above the tropical Atlantic, which was begun in 1905 by M. Teisserenc de Bort and Mr. Rotch, was continued at their joint expense further west, and also south of the equator. By means of pilot-balloons and *ballons-sondes*, launched from the French yacht, the prevalence of the southwest or southeast anti-tradewind, at a height of two or three miles above the open ocean, was confirmed, and lower temperatures were shown to exist in summer, at great heights in the vicinity of the equator, than are found in winter at equal heights in the north temperate regions.

MISCELLANEOUS.

Variable Stars. — An attempt has been made to observe, at least once a month, the light of all the variable stars of long period whose magnitude is 9.0 or brighter, and which have a range of three magnitudes or more. The working list at Cambridge contains 309 stars. Mr. Campbell has made 1,178 observations of them with the 5-inch telescope and a field glass, and 560 with the 24-inch reflector. He has also observed those which are visible only during the latter part of the night. Miss Cannon has made 952 observations with the 6-inch West Equatorial. 718 observations have been communicated by Miss Ida Whiteside, 175 by Professor Whitney of Vassar College, 104 by Professor Stone of the University of Virginia, and 83 by Mr. Eadic. The total number, including those made at Arequipa of the fifty southern variables, is 4,132. The observations of the northern stars are generally reduced and plotted the next day, and the approximate magnitude on the first of each month is compiled by Mr. Campbell, and published in *Popular Astronomy*. These are by no means the final magnitudes to be deduced from the observations, but are intended merely to enable other observers to select objects suited to their instrumental means.

Needs of the Observatory. — As the needs of the Observatory have not been supplied they become more urgent each successive year. The value of the buildings is less than one-twentieth of the entire property of the Observatory, a proportion which is less than a quarter of that of other large institutions of its kind. Fireproof buildings

of plain construction for the library, for the photographic laboratory, and for a workshop are greatly needed, and would form excellent memorials. Perhaps the greatest return could be obtained by the employment of more assistants for the study of the unique collection of astronomical photographs. This collection now contains 189,200 photographs of the stars, and is like a library of that size with only about twenty readers. The work of the Observatory is of value only so far as it is printed. Unpublished observations are absolutely valueless. The publication of the great amount of material that has accumulated in recent years must be regarded as one of the greatest needs of the Observatory.

No provision has yet been made by which aid can be rendered to a man of any other country, the "particular man," who displays unusual skill in a special department of Astronomy. The small fund available here for international research has proved exceptionally useful, and its increase is greatly to be desired. A man of real genius often has plans of the greatest importance, which he is obliged to abandon for want of a few hundred dollars. A very good example of coöperation to mutual advantage is a plan now being carried out by which the excellent astronomical work of the Rev. J. H. Metcalf has been materially increased.

Library. — The Library of the Observatory has been increased by 456 volumes, and, by binding, the number of pamphlets has been diminished by 741. The total numbers of volumes and pamphlets in the Library on October 1, 1906, are 11,878 and 23,770, respectively. This collection, one of the finest of its kind in the world, is in constant danger of destruction by fire, and is distributed through the rooms of the Observatory, wherever space is available. A suitable building to contain it is one of our most urgent needs.

Telegraphic Announcements. — Forty-one telegraphic announcements have been issued. Of these, eleven were received from Kiel, ten from Professor Herbert R. Morgan, nine from Lick Observatory, four from Professor E. O. Lovett, three from Professor A. O. Leuschner, two from the United States Naval Observatory, and one each from Professor Percival Lowell and Dr. W. R. Brooks. In addition to the announcements enumerated above, eight were cabled to Kiel which were not generally distributed by telegraph.

On March 15, 1906, the Science Observer Code, which had been in use over twenty years for the transmission of astronomical telegrams, was superseded by a new system devised by Mr. Gerrish. The principal advantage of the new code is that no code-book is required. Numbers are telegraphed by a syllabic code, in which

each digit is represented by a combination of two letters, which thus furnishes a check for each. The system, which may be used to send safely any message consisting mainly of numbers, has had a thorough practical test since its introduction, and has proved entirely successful. Copies of a pamphlet describing it will be furnished gratuitously on application. Announcements will be received at this Observatory, by telegraph according to this system, for transmission to Kiel, and for distribution on the continent of America. Professor Kreutz, at Kiel, is prepared to receive announcements in the same system, from other countries than Europe.

Cablegrams intended for this Observatory should be addressed "Observatory, Boston"; and all telegrams, "Harvard College Observatory, Cambridge, Mass." All correspondence relating to telegrams should be addressed to the Director.

These telegrams continue to be supplemented by neostyle bulletins which are printed as soon as the telegrams have been sent off, and distributed by first-class mail. Translated messages together with additional information are thus promptly distributed. 56 bulletins, making 255 in all, have been distributed in this way.

Publications. — Volume 39, Part 2; Volume 53, No. 10; Volume 58, No. 2, have been completed and published this year. 24 pages of Volume 47, A Photographic Study of Variable Stars; 161 pages of Volume 52, Eclipses of Jupiter's Satellites; 20 pages of Volume 54, Durchmusterung Zones observed with the 12-inch Meridian Photometer; 56 pages of Volume 55, Variable Stars of Long Period; 16 pages of Volume 56, No. 4, Meteorology of Total Solar Eclipses; 50 pages of Volume 60, No. 3, Positions of Phoebe, 1898-1904, and 25 pages of Volume 61, Researches of the Boyden Department, have been put in type. No progress has been made in printing Volume 49, and the printing of Volumes 50, 57, 59, 62 and following volumes has not yet been undertaken. Accordingly, the completed volumes are 1-46, 48, 51, and 53. Also Volumes 56, Nos. 1, 2, and 3, 58, Parts 1 and 2, and 60, Nos. 1 and 2.

Twelve circulars have been issued whose numbers, titles, and dates are as follows: —

107. Twenty-five New Variable Stars. January 12, 1906.
108. A Systematic Study of Faint Stars. February 7, 1906.
109. Observations of Phoebe during 1905. February 7, 1906.
110. Determination of Radial Motions by Objective Prisms. February 9, 1906.
111. Stars having Peculiar Spectra. 13 New Variable Stars. February 16, 1906.

- 112. Variable Stars of Long Period. February 21, 1906.
- 113. Measurements of Linné during Total Lunar Eclipse. March 14, 1906.
- 114. The Algol Variable, $+41^{\circ} 851.041342$. March 28, 1906.
- 115. Twenty-two New Variable Stars in Carina. May 4, 1906.
- 116. A Durchmusterung of Variable Stars. May 11, 1906.
- 117. *183930*. A New Algol Variable. $-30^{\circ} 16169$. H 1236. May 20, 1906.
- 118. Observations of Phoebe in May and June, 1906. August 19, 1906.

Besides the more important publications which have been described above, numerous minor publications have been made by the officers of the Observatory.

EDWARD C. PICKERING, *Director*.

THE MUSEUM OF COMPARATIVE ZOÖLOGY.

TO THE PRESIDENT AND FELLOWS OF HARVARD COLLEGE:—

In the academic year 1905-06, ten courses in Zoölogy were given by Professors Mark, Parker, Castle, and Dr. Rand to two hundred and fifty-one students in Harvard University, and seven courses were given to thirty-three students of Radcliffe College. The assistants in the University courses were Messrs. A. M. Banta, L. J. Cole, E. D. Congdon, I. A. Field, H. MacCurdy, A. S. Pearse, and H. E. Walter; in Radcliffe College the assistants were Messrs. M. Copeland, J. A. Long, and H. MacCurdy. Mr. E. D. Congdon held the Virginia Barret Gibbs Scholarship, and five students connected with the Zoölogical Laboratory received aid from the income of the Humboldt Fund.

In the Department of Geology and Geography two courses were conducted by Professor Davis, the Sturgis-Hooper Professor of Geology; these courses were given as in former years, save that an additional amount of laboratory work was required in the course dealing with the physiography of the United States. The other courses were given by Professors Shaler, Ward, Woodworth, Jaggard, Johnson, and Drs. Smith and Mansfield; the assistants were Messrs. W. M. Barrows, H. N. Eaton, J. W. Eggleston, E. J. Saunders, F. H. Sawyer, S. A. Starratt, and E. E. White. These courses, nineteen in number, were taken by three hundred and eighty-seven students of Harvard University; four courses offered to students of Radcliffe College were taken by forty-three students. In the Summer School two courses were given by Dr. Mansfield and Mr. Eggleston to eighteen students. Mr. H. E. Merwin held the Josiah Dwight Whitney Scholarship for the year.

For an important improvement to the building the Museum is indebted to the continued liberality of Mr. Agassiz. To facilitate the entrance of the public to the Exhibition Rooms Mr. Agassiz erected in 1886-87 a three-story staircase; to this structure he has now added two stories. The Museum thus gains a more finished entrance and a large work-room; the latter will be devoted to the Research Collections of fossil Echinoderms. The Museum is also enabled by Mr. Agassiz's generosity to undertake the renovation of all the entrance and exhibition halls from cellar to roof, and to rebuild the large central case in the African Room.

For the Exhibition Rooms, new cases have been built in the Mesozoic Room and in the European Room; one case in the Indian Room has been enlarged. For the Research Collections additional cases have been provided for the Ornithological Department, the alcoholic reptiles, the Entomological Department, the lower invertebrates, and for the thalassographic collections.

From Mr. William Barbour of New York the Museum has received for present use five thousand dollars (\$5000). Mr. Barbour's generous gift will provide for the more efficient storage of our Research Collections, and for some desirable specimens for both research and exhibition.

Already we have bought from Mr. Barbour's donation a fine egg of the Great Auk, *Plautus impennis*. This egg, number 65 of Grieve's List, was originally the property of the Royal College of Surgeons, London; later it was acquired by Mr. Robert Champley of Scarborough, England. The Museum bought it of Mr. Rowland Ward.

In connection with the egg of the Great Auk attention may be called to the following extract from the Sixth Annual Report of the Museum, 1864 (1865). Professor Louis Agassiz, Director of the Museum, wrote (p. 16-17): "Among the most valuable accessions to the Museum, during the past year, I would mention . . . a perfect specimen of a mummified penguin (*Alca impennis*), presented by Sir Alexander Bannermann, late governor of Newfoundland."

This specimen, so far as I know unique to-day, was secured on Funk Island, off Newfoundland, in 1863.

Another most gratifying gift was received last June from the Rev. Henry W. Winkley of Branford, Conn.; it consists of a large series, some 1600 species and varieties of land shells from all parts of the world, except New England. His New England Collection Mr. Winkley retains for study, but he writes that he thinks in time it too "will find its way to the Museum." The shells received are in excellent condition. Mr. Winkley, as a member of the Class of 1881, recalls with pleasure his undergraduate work in the Museum, and gives the Collection as his contribution towards the twenty-fifth anniversary celebration of the Class.

It is hoped that Mr. Winkley's gift will prove an incentive to other graduates to associate their college work with the interests of science and the Museum.

For a number of years the late Mr. Roland Hayward was deeply interested in the Entomological Department of the Museum; he frequently enriched its collections and gave his time freely to their

study. Mr. Hayward died April 11, 1906, and bequeathed the Museum his entire collection of Coleoptera, a collection especially rich in the Carabidae, with a large number of types and determined species of Bembidium, Tachys, and Amara.

The thanks of the Museum are due to Professor J. W. Judd for a carefully labelled series of Dolomitic rocks from the Tyrol; to Mr. John E. Thayer for an interesting collection of mammals from Sonora, Lower California, and contiguous regions; and to Professor Roland Thaxter for a large number of insects, principally Coleoptera, collected during his stay in South America.

The Museum is likewise indebted to Dr. Frank Springer for a fine series of the crinoid, *Talarocrinus pateri*, from the St. Louis group, Breckenridge Co., Kentucky, and to Dr. Leon J. Cole for some interesting invertebrates from the Tortugas.

All departments of the Museum, but especially the Entomological and those under the charge of Mr. Garman, have received many and valuable accessions from the continued interest of Mr. Thomas Barbour.

By purchase the Museum has acquired 224 specimens of Ammonites, an invaluable addition to its already rich series of fossil Cephalopods. These important fossils are from the Inferior Oolite of England, many of them from the famous Bradford Abbas quarry, a locality no longer available. The collection has been monographed by Mr. S. S. Buckman in supplements to his Memoir on Inferior Oolite Ammonites of the British Islands (Palaeontographical Society, London); more than three-fourths of the specimens are types; the Museum thus shares Mr. Buckman's types with the Woodwardian Museum (Cambridge, England).

The Museum has also purchased of Mr. A. E. Wight a considerable collection of Jamaican invertebrates and lower vertebrates.

To Messrs. Faxon, Brewster, Woodworth, and Bangs the Museum is under obligations for the care they have taken of their several Departments. The special reports of the assistants give the usual details of the year's work.

For the Exhibition Collections Mr. Agassiz has given a magnificent Manchurian Tiger (*Felis mongolica*), a Bald-headed Chimpanzee (*Anthropopithecus tchego*), and three Hartebeests, Coke's, Swayne's, and the Cape (*Bubalis cokei*, *B. swaynei*, and *B. caama*).

The Museum will also receive as a gift from Mr. Agassiz a male Okapi. Though properly an accession of next year the exceptional interest attached to the Okapi, and the fact that this specimen is the first of the species to be shown in a museum in this country, seems

sufficient reason for its mention here. Moreover, competent authorities consider this the finest example of the species hitherto mounted in England. It was mounted by Mr. Rowland Ward.

The Okapi is related to the Giraffe, having paired hoofs, large ears, and a fairly long neck; the legs and haunches are striped instead of being spotted; the male has a pair of single bony horns covered with skin; it is found in the forests of the Congo.

Stimulated by Mr. Agassiz's generous gifts a thorough rearrangement of the exhibition rooms devoted to the Europæo-Siberian and to the African Faunas has been undertaken; for the European Room this rearrangement is practically completed, and for the African Room it is well under way. The new cases, built from base to ceiling, with large panes of glass and without the usual cross-bars, give a much improved appearance to the rooms, while the simple expedient of placing the brackets on the upright next the glass allows a far more effective display.

There are two Exhibition Rooms yet to be opened to the public: these are the room devoted to the Mesozoic Fauna and the one for animals under domestication.

It is expected that these rooms will be opened during the year 1906-07. The vertebrates for the Mesozoic Room are already in place, but the invertebrates are yet to be selected, mounted, and labelled.

By devoting a room to animals under domestication, the Museum realizes one of the plans of its founder. During his early work here, Professor Agassiz personally, and with the aid of his assistants, accumulated much valuable osteological material of domesticated animals; a selection from this material will be utilized for the new room.

Dr. C. B. Davenport, Mr. E. N. Fischer, Mr. F. P. Lothrop, and Mr. H. F. Otis have shown their interest in this exhibit by presenting a number of fowls and pigeons; these have been mounted by the Museum preparator, Mr. George Nelson.

For exhibition among the special collections Dr. W. E. Castle has presented a series of fourteen guinea-pigs; this series, which shows graphically the principle of alternative inheritance, has been most skilfully mounted by Mr. Nelson.

Mr. Nelson has continued his work on the reptiles for exhibition; two of the more noteworthy examples of his handiwork are the Python and the Cobra in the Indian Room.

There are 42,421 volumes and 36,322 pamphlets in the Library of the Museum, an increase of 1,264 volumes and 1,289 pamphlets over the numbers previously reported.

The publications for the year include a volume and two numbers of the *Memoirs*, seventeen numbers of the *Bulletin*, and the *Annual Report*, a total of 893 (731 octavo, 162 quarto) pages and 161 (51 octavo, 110 quarto) plates. Four of the numbers of the *Bulletin* and all of the *Memoirs* are reports on the scientific results of expeditions fostered by Mr. Agassiz; seven numbers of the *Bulletin* are based principally upon Museum collections, three numbers are Contributions from the Zoölogical Laboratory, and three numbers, issued in the Geological series, are similar Contributions from the Geological Department. The Corporation has continued an appropriation of \$350 to assist in the publication of the Contributions from the Zoölogical and Geological Laboratories.

SAMUEL HENSHAW.

THE ZOÖLOGICAL LABORATORY.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR, — The number of students attending the several courses in Zoölogy during the academic year 1905-06 is shown, as usual, in the following table, the numbers printed in *italics* referring to students registered in the Lawrence Scientific School :—

Courses 1905-06.	Grad.	Senior.	Junior.	Soph.	Fresh.	Special.	Total.
Zoölogy 1	3	6+2	15+5	31+7	32+3	8+8	95+25=120
" 2	1	2+1	10+1	10+4	3+1	1+3	27+10= 37
" 3	3	3+1	5+4	2+3	...	2	13+10= 23
" 4	2	1	2	1	...	...	5+ 1= 6
" 6	3	...	2	1	...	...	5+ 1= 6
" 11a	10	3+1	...	...	...	...	13+ 1= 14
" 11b	9	2+1	...	...	...	...	11+ 1= 12
" 13	6	2	...	...	...	...	8 = 8
" 15	7	2	...	...	...	...	9 = 9
" 20	14	1	...	1	...	...	15+ 1= 16
Sums	58	22+6	34+10	43+17	35+4	9+13	201+50=251

The corresponding information about students of Radcliffe College attending courses in Zoölogy is given in the second table :—

Courses, 1905-06.	Grad.	Sen.	Jun.	Soph.	Fresh.	Special.	Total.
Zoölogy 1	2	3	3	2	3	3	16
" 2	1	...	...	2	...	...	3
" 3	1	...	1	...	...	1	3
" 4	1	1	...	1	...	1	4
" 6	1	1	...	1	...	...	3
" 15	1	...	1	...	...	...	2
" 20	2	...	...	...	...	...	2
Sums	9	5	5	6	3	5	33

Assistant Professor R. T. Jackson was on leave of absence during the year and the courses in Palaeozoölogy were not given.

It is especially gratifying to record the promotion of Assistant Professor Parker to be Professor of Zoölogy, and the promotion of Dr. Rand to a seat in the Faculty of Arts and Sciences.

Zoölogy 1 was conducted by Assistant Professor Parker essentially as in the year 1904-05. The chief assistant in Harvard University was Mr. L. J. Cole; the sub-assistants were Messrs. E. D. Congdon, A. S. Pearse, and H. MacCurdy. In Radcliffe College the assistant was Mr. J. A. Long.

Zoölogy 2 was given by Assistant Professor Castle, substantially as in previous years. Mr. I. A. Field was chief assistant, and Mr. A. M. Banta, sub-assistant, in the Harvard class. Mr. H. MacCurdy had charge of the laboratory work in Radcliffe College.

Dr. Rand was in charge of Zoölogy 3, and conducted the course in the same way as in the previous year, making satisfactory use of occasional "quizzes." The lighting of the laboratory was much improved. The assistant in Harvard College was Mr. H. E. Walter; in Radcliffe, Mr. M. Copeland.

As announced in the report for 1904-05, several of the courses (Zoölogy 5, 10, 11, and 13) have been expanded or altered in scope. The changes there announced as proposed changes have been carried out as far as they relate to the year 1905-06.

The course in technique (Zoölogy 4) was carried on as usual by Professor Mark with the aid of Dr. Rand, who had charge of the laboratory instruction and gave a few lectures on the histology of Glossiphonia, the animal studied in this course.

Zoölogy 6 (Organogeny of Vertebrates) was given for the first time; it is in future to alternate with Zoölogy 5. The laboratory work was confined to the study of the development of the more important organs in the chick up to the fifth day of incubation, and was in charge of Dr. Rand. The lectures were given by Professor Mark; the subject was treated in a comparative way.

In Zoölogy 11a and 11b, given by Assistant Professor Castle, three of the Graduate Students enrolled in the course attended the lectures without doing the laboratory work, and were allowed to count the two half-courses without laboratory as the equivalent of one half-course. Several of the investigations, which were chiefly on questions of heredity, will be presented for publication.

The work by one of the students in these courses, together with that carried on by students in Courses 10 and 11 in previous years and by the instructor, has been published as one of the Contributions (No. 177) from this Laboratory; that by another student is nearly ready for publication, and that of a third is incorporated with work done in Zoölogy 20 for a doctor's thesis.

With the expansion of former Zoölogy 13 into two half-courses (13 and 14), given by Assistant Professor Parker, it is planned to

divide the field and to give the new courses in alternate years. During the past year Zoölogy 13 has been given, the lectures and laboratory exercises being limited to epithelial and nervous tissues.

Zoölogy 15, which alternates with 16, was given by Assistant Professor Parker as in 1903-04, except for the revision of the lectures. Five graduates besides those enrolled in the course attended the lectures. Of the nine topics assigned for investigation, four have yielded results for publication.

Of the sixteen students enrolled in Zoölogy 20, eleven carried on their work under the immediate supervision of Professor Mark, three under Assistant Professor Parker, one under Assistant Professor Castle, and one under Professor Mark and Assistant Professor Parker, jointly. Two Graduate Students in Radcliffe College also carried on special researches under Professor Mark.

Besides the doctors' theses presented by five of these, papers are completed or well advanced by most of the others.

The degree of Doctor of Philosophy was conferred in June, 1906, on the following students in Zoölogy, the title of the thesis immediately following the name in each case: Henry Bryant Bigelow, *Studies on the Nuclear Cycle of Gontionemus murbachii Mayer*; Leon Jacob Cole, *An Experimental Study of the Image-Forming Powers of Various Types of Eyes*; Arthur Day Howard, *The Visual Cells in Vertebrates, chiefly in Necturus maculosus*; John Hancock McClellan, *The Development of the Excretory System of Amia calva*; Hansford MacCurdy, *The Influence of Selection on Color Pattern in Guinea-Pigs and Rats*; Samuel Ottmar Mast, *Light Reactions in Lower Organisms: I. Stentor coeruleus*; Herbert Eugene Walter, *The Reactions of Planarians to Light*.

During the year, Assistant Professor Parker published Contributions Nos. 168, 169, 171, and 173. Assistant Professor Castle has published, besides Contributions Nos. 175-177, brief articles and reviews in "Science" and in the "American Naturalist."

Two numbers of the Contributions from the Bermuda Biological Station for Research have been published during the year: —

NO. 7. BARBOUR, THOMAS. — Notes on Bermudian Fishes. *Bull. Mus. Comp. Zool. Harvard Coll.*, Vol. 46, No. 7, pp. 107-134, 4 pls. September, 1905.

NO. 8. BLACKMAN, MAULSBY W. — The Spermatogenesis of the Myriapods. IV. On the Karyosphere and Nucleolus in the Spermatocytes of *Scolopendra subspinipes*. *Proc. Amer. Acad. Arts and Sci.*, Vol. 41, No. 13, pp. 331-344, 1 pl. September, 1905.

During the summer of 1906, six students worked at the United States Fisheries Bureau at Woods Hole, two of them being employed as assistants in the Bureau. Five students received aid from the Humboldt Fund during the summer of 1906, amounting to \$137.14; four of them while working at Woods Hole, and one at Cambridge.

The meetings of the Zoölogical Club were held on the afternoon of Wednesdays throughout the year, the subjects presented being usually announced in the *Gazette*. There were twenty-five meetings, and fifty-five papers were presented, twenty-five of them being summaries of original work, most of which was done in this Laboratory.

CONTRIBUTIONS FROM THE ZOÖLOGICAL LABORATORY
FROM JULY 1, 1905, TO JULY 31, 1906.

168. PARKER, G. H. — The Reversal of the Effective Stroke of the Labial Cilia of Sea-Anemones by Organic Substances. *Amer. Jour. of Physiol.*, Vol. 14, No. 1, pp. 1-6. July, 1905.
169. PARKER, G. H. — The Movements of the Swimming-Plates in Ctenophores, with Reference to the Theories of Ciliary Metachronism. *Jour. of Exp. Zool.*, Vol. 2, No. 3, pp. 407-423. August, 1905.
170. BLACKMAN, M. W. — The Spermatogenesis of the Myriapods. III. The Spermatogenesis of *Scolopendra heros*. *Bull. Mus. Comp. Zool. Harvard Coll.*, Vol. 48, No. 1, pp. 1-137, 9 pls. October, 1905.
171. PARKER, G. H. — The Stimulation of the Integumentary Nerves of Fishes by Light. *Amer. Jour. of Physiol.*, Vol. 14, No. 5, pp. 413-420. November, 1905.
172. CARPENTER, F. W. — The Development of the Oculomotor Nerve, the Ciliary Ganglion, and the Abducent Nerve in the Chick. *Bull. Mus. Comp. Zool. Harvard Coll.*, Vol. 48, No. 2, pp. 139-229, 7 pls. January, 1906.
173. PARKER, G. H. — Double Hens' Eggs. *Amer. Nat.*, Vol. 40, No. 469, pp. 13-25. January, 1906.
174. SMITH, G. — The Eyes of Certain Pulmonate Gasteropods, with special Reference to the Neurofibrillae in *Limax maximus*. *Bull. Mus. Comp. Zool. Harvard Coll.*, Vol. 48, No. 3, pp. 231-283, 4 pls. April, 1906.
175. CASTLE, W. E., and FORBES, A. — Heredity of Hair-Length in Guinea-Pigs and its Bearing on the Theory of Pure Gametes. *Publ. Carnegie Inst. Washington*, No. 49, pp. 1-14. May, 1906.
176. CASTLE, W. E. — The Origin of a Polydaetylous Race of Guinea-Pigs. *Publ. Carnegie Inst. Washington*, No. 49, pp. 15-29. May, 1906.

177. CASTLE, W. E., CARPENTER, F. W., CLARK, A. H., MAST, S. O., and BARROWS, W. M. — The Effects of Inbreeding, Cross-breeding, and Selection upon the Fertility and Variability of *Drosophila*. *Proc. Amer. Acad. Arts and Sci.*, Vol. 41, No. 33, pp. 729-786. May, 1906.
178. PEARSE, A. S. — Reactions of *Tubularia crocea* (Ag.). *Amer. Nat.*, Vol. 40, No. 474, pp. 401-407. June, 1906.
179. MARK, E. L., and COPELAND, M. — Some Stages in the Spermatogenesis of the Honey Bee. *Proc. Amer. Acad. Arts and Sci.*, Vol. 42, No. 5, pp. 101-112, 1 pl. June, 1906.

E. L. MARK, *Director*.

DEPARTMENT OF GEOLOGY AND GEOGRAPHY.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,— With profound regret I record the death on the 10th of April, 1906, of Professor Nathaniel Southgate Shaler, the organizer and long time senior professor as well as guiding spirit of this Department.

During the first half of the year, Professor Shaler gave as usual his lectures on Dynamical and Structural Geology to the class in Course 4, and as well his lectures on Palaeontology in Course 14.

He started a course known as Comparative Geology (23 of the list), which, however, he was unable to complete. In its offering of courses for 1906–07 the Department decided to withdraw Courses 23 and 14 in Palaeontology. Professor Shaler was assisted in Geology 4 by Dr. P. S. Smith; in Course 14 by Mr. S. A. Starratt, Gr., who resigned early in the year and was replaced by Mr. W. M. Barrows, Gr., Austin Teaching Fellow, also Assistant in Course 23.

Professor Davis reports concerning the summer of 1905 that his return to Cambridge was delayed until after the beginning of the academic year on account of the journey around the east coast of Africa with the party of the British Association on their way home from the meeting in Cape Colony, the Transvaal, and Rhodesia. He reached Cambridge, November 4. During the winter a significant share of time was given to the preparation of articles embodying the results of observations in South Africa. The chief topics treated were: the Dwyka glacial formation, concerning which reports were made at the meeting of the National Academy in New Haven (November) and at the meeting of the Geological Society of America in Ottawa (December); the origin of the Veld, or the interior highland plain of South Africa; and the topographic development of the east and west Cape Colony ranges, which present many striking analogies with the Appalachians of Pennsylvania. Public lectures on the African excursion were given on several occasions.

Professor Davis's two courses of instruction remained unchanged from former years, except that an increased amount of laboratory work was added to the course on the Physiography of the United States in the second half-year. The latter half of the summer of 1906 was spent in Mexico, in connection with the meeting of the

International Geological Congress. Excursions were made to western Mexico, under the leadership of Sr. Ordoñez, to visit the modern volcano of Jorullo, famous for its description by Humboldt; to various points on the central plateau; and to the eastern slope and coast, where a good understanding was gained of the chief topographic features there developed.

Dr. P. S. Smith, Instructor in Geology, gave, with the aid of Mr. E. J. Saunders, the elementary course in Physiography (A) and assisted Professor Shaler in Course 4 during the first half-year. At the close of this period he resigned in order to engage in the geological work of the U. S. Geological Survey. Owing to changes in the personnel of the Department, Dr. D. W. Johnson, of the Massachusetts Institute of Technology, was appointed an Assistant Professor to give Courses A and 6, and Dr. G. R. Mansfield was promoted from an assistantship to be instructor in charge of Course 22 and Mining 28. Courses 9 and 17, formerly given by Professor Jaggard, have been withdrawn.

An elementary summer course in Dynamic and Structural Geology attended by nine students was given in Cambridge by Mr. J. W. Eggleston. An elementary course in the Physiography of the Lands was given by Dr. Mansfield to a class of eleven persons.

Professor R. T. Jackson was absent in Europe during the year, and Course 11 was therefore not offered.

Professor Ward reports as follows: Geology B (Elementary Meteorology) was formerly given at 11 o'clock, with three lectures a week, and two hours of laboratory work. The number of students averaged over 100. In 1903-04, 141 completed the course. In 1904-05 the hour of the lecture was changed to 3.30 p. m., and the number fell from 141 to 62. Last year (1905-06) the time required for laboratory work was increased from two hours to four. The number of students fell to 44. This reduction in the numbers in the elementary course has naturally been followed by a corresponding falling off in the higher courses, to which those only are admitted who have passed Geology B. In 1903-04 Geology 1 was taken by 16, and Geology 19 by 12 students. In 1905-06, following the great decrease in Geology B, the number in Geology 1 fell to 5 and in Geology 19 to 7. It is safe to predict a still further reduction in the numbers who will take Geology 1 and 19 this year, in view of the still further decrease in the number of available candidates who have taken Geology B (44 last year as against 141 two years before). The foregoing facts throw some light on the considerations which determine the election of small courses.

The Meteorological Observatory, completed in June, 1905, was used for the first time by the students in Course B, during the spring of 1906. A standard shelter has been erected on the roof, and the ordinary thermometers, thermograph, hygrograph, and rain-gauge are at present in working order out of doors. A barograph and a mercurial barometer are installed within. The shelter and platform have, so far as possible, been protected against damage by lightning in accordance with the most approved methods, and the instrument room, in the attic beneath the platform, has been changed in several respects in order to diminish the risk of fire. This work was done in 1905-06, under the direction of the Inspector of Grounds and Buildings.

Geology B has been strengthened by the extension of the period of laboratory work from two to four hours a week. In Geology 1, practical work with nephoscopes was introduced. In Geology 19, laboratory work was substituted for theses, with excellent results. In Geology 20e, Mr. K. S. Johnson, '07, constructed a series of charts of relative humidity for the United States, and these were shown at the Kimberley meeting of the South African Association for the Advancement of Science, and are to be published in the Report of the Association. A paper on "Tornado Insurance," written by Mr. H. E. Simpson, Gr., in Geology 19, during the year 1904-05, has been published in "The Monthly Weather Review," December, 1905. Mr. E. J. Saunders assisted Professor Ward in Course B.

Professor J. B. Woodworth reports that during the year he planned and carried out, with the assistance of Messrs. J. W. Eggleston, F. H. Sawyer, and H. N. Eaton, the laboratory and field work in Geology 4; the lectures and laboratory work in Geology 5, where again he was assisted by Mr. Eggleston, together with Messrs. E. E. White and Sawyer. Mr. Woodworth also gave Courses 8 and 16. In Course 20c, Mr. E. S. Bryant, '06, worked on the glacial geology of the Franklin sheet, and Mr. H. N. Eaton made a map of the Carboniferous strata and enclosed volcanics, extending east and west of South Attleboro on the Providence quadrangle, which together with a brief report is being prepared for publication. Instruction was also given by Mr. Woodworth to students in Radcliffe College. Considerable time was devoted to installing and arranging collections in the exhibition room of the Geological Museum. A still larger share of his time was consumed in his duties as Chairman of the Department.

The laboratory materials were increased as follows: stretched

conglomerates from Tiverton and Newport, R. I., collected by Dr. G. R. Mansfield; a collection of Miocene fossils from Yorktown, Va., made by J. B. Woodworth during the April recess; specimens of Knox dolomite from Newport, Tenn., from H. S. Gale, U. S. G. S.

July was devoted by Mr. Woodworth to the New York Geological Survey, mainly in completing the glacial map of the Schuylerville quadrangle. On the 23d of August he proceeded by sea to Vera Cruz in order to attend the International Congress of Geologists held in Mexico.

Professor Jaggar conducted the advanced field courses, Geology 22 and Mining 28, as usual, with the assistance of Dr. Mansfield. Students of Course 22 mapped areas hitherto unexplored by this class between Lawrence and Topsfield. A voluntary course of lectures on the "Structural Provinces of the United States" was given in the autumn of 1905 to advanced students. In February, 1906, Professor Jaggar gave a course of four public lectures in the Colonial Theatre, Boston, under the auspices of the Twentieth Century Club, on "The Earth as a Living Organism." In the spring of 1906, Mr. H. G. Ferguson made experiments on rill erosion in the laboratory of Experimental Geology. Mr. Ferguson spent the summer of 1905 in Iceland and has since published in the *Journal of Geology* an account of Miocene glacial deposits there. Dr. G. R. Mansfield completed a thesis for the doctorate of Philosophy entitled "Origin and Structure of the Roxbury Conglomerate." This essay is to be published as a Bulletin of the Museum. Professor Jaggar finished during the year his share on the text and maps of the Sturgis-Spearfish Folio of the Geologic Atlas of the United States, issued by the United States Geological Survey. This production is the outcome of two seasons' field work in the northern mining district of the Black Hills, South Dakota. In April, 1906, he went to Naples on behalf of Mr. Alexander Agassiz, to make notes and collections at the scene of the recent eruption of Vesuvius. September 1, 1906, Dr. Jaggar resigned his assistant professorship.

The sub-committees of the Department present the following reports.

The Committee on the Gardner Collection of Photographs (Messrs. Ward and Woodworth) report as follows.

The accessions include a set of films and lantern slides representing views in Montana taken by J. B. Woodworth, a series of photographs from New Zealand brought to the Department by Professor Davis, lantern slides purchased of the Palestine Exploration Society,

and several gifts of isolated photographs. Mr. Charles M. Farnham was employed at intervals during the year in renovating the slides. He made considerable progress in the numbering of the negatives and films; but owing to the lack of the necessary assistance the usual cataloguing of new views was not maintained. The regular duties of the present teaching staff of the Department preclude giving the necessary time to this work. A person with the requisite knowledge of geography and geology to insure the correct description and cataloguing of the rich materials annually brought to this collection is a pressing need of the Department. The accompanying table presents the condition of the collection.

State of the Collection, July 1	Photographs.	Slides.	Negatives.
Accessions since last report	47	433	99
Unidentified views	253	30	0
Duplicates	144	51	0
Broken	0	0	0
Condemned	0	0	0
Last accession number	5701	4741	0
Number now in collection	5629	5066	1236

The Committee on the Geological Museum (Messrs. Woodworth, Wolff, and Jaggar) report that through the generous interest of Mr. R. W. Sayles, '01, the Corporation received the gift of five thousand dollars, the income of which is "preferably to be devoted to the acquisition, preparation, and maintenance, of collections suitable for a museum of geology and geography." It should be stated that the Museum stands in immediate need of several thousand dollars for the construction of exhibition cases. By a transfer of large specimens and certain models already in the teaching collections of the Department, the cases now constructed have been partially filled with the nucleus of a collection, some of which will naturally be replaced by better and newer material as soon as it can be obtained. The labelling of the exhibits has been begun. A printed label ($4\frac{1}{2} \times 1\frac{1}{2}$ in.) has been adopted as suitable for recording the leading data concerning the numerous exhibits.

The Committee has received the following gifts: Glaciated pebbles and tillite from the Carboniferous Dwyka conglomerate of South Africa, collected in 1905 by Professor W. M. Davis; sand-blasted parts of trees from the dunes of Ipswich, Mass., collected by Mr. Albert Morse; ashes from the eruption of Mont Pelée, Martinique, May 20, 1903, gift of Mrs. N. S. Shaler.

The Committee on the Josiah Dwight Whitney Scholarship (Professors Davis, Jaggard, and Woodworth) recommended that a scholarship of \$200 be awarded to Mr. Howard E. Merwin, a student in the Lawrence Scientific School, for defraying the expense of ten weeks' work during the summer of 1906 upon the ancient Pleistocene shore lines of Vermont, which task Mr. Merwin has satisfactorily carried out, and a report is now in preparation.

The following is a list of publications which have appeared since the last report:—

1. Glaciation of the Sawatch Range, Colorado. By W. M. DAVIS. *Bull. Mus. Comp. Zool.*, XLIX, 1906, pp. 1-12, 1 pl.
2. The Wasatch, Canyon, and House Ranges, Utah. By W. M. DAVIS. *Ibid.*, pp. 18-56, 3 pls.
3. The Geographical Cycle in an Arid Climate. By W. M. DAVIS. *Geogr. Journ.*, XXVII, 1906, pp. 70-78.
4. The Sculpture of Mountains by Glaciers. By W. M. DAVIS. *Scott. Geogr. Mag.*, XXII, 1906, pp. 76-89.
5. The British Association in South Africa. By W. M. DAVIS. *The Nation*, November 16 and 23, 1905.
6. An Inductive Study of the Content of Geography. By W. M. DAVIS. *Bull. Amer. Geogr. Soc.*, 1906.
7. Incised Meandering Valleys. By W. M. DAVIS. *Bull. Geogr. Soc., Philadelphia*, IV, 1906, No. 2, pp. 1-11.
8. A Day in the Cévennes. By W. M. DAVIS. *Appalachia*, XI, 1906, pp. 110-114, pls. 16-17.
9. A New Species of Fossil *Limulus* from the Jurassic of Sweden. By R. T. JACKSON. *Arkiv för Zoologi*, III, 1906, No. 11, 7 pp.
10. The Climatic Zones and their Subdivisions. By R. DEC. WARD. *Bull. Amer. Geogr. Soc.*, XXXVIII, 1906, pp. 385-396.
11. Suggestions concerning a More Rational Treatment of Climatology. By R. DEC. WARD. *Report of 8th Internat. Geogr. Congress*, 277-293.
12. The Hygiene of the Zones. By R. DEC. WARD. *Bull. Geogr. Soc., Philadelphia*, IV, 1906, No. 2, pp. 29-55.
13. The Classification of Climates. By R. DEC. WARD. *Bull. Amer. Geogr. Soc.*, XXXVIII, 1906, pp. 401-412, 465-477.
14. Professor Shaler. By J. B. WOODWORTH. *The Harvard Illustrated Magazine*, VII, April, 1906, pp. 133-136 (with portrait).
15. Book Review in *The Nation*. By J. B. WOODWORTH.
16. Administrative Report of work done in New York in 1903. By J. B. WOODWORTH. Embodied in Report of the State Geologist, Dr. J. M. Clarke. *57th Annual Report of the N.Y. State Museum, Albany, N.Y.*, 1904, pp. 8-12.

17. Administrative Report of work done in New York in 1904. By J. B. WOODWORTH. Embodied in Report of the State Geologist, Dr. J. M. Clarke. *58th Annual Report of the N.Y. State Museum, Albany, N.Y.*, 1905, pp. 18, 19.

18. Administrative Report of work done in New York in 1905. By J. B. WOODWORTH. Embodied in Report of the State Geologist, Dr. J. M. Clarke. *59th Annual Report of the N.Y. State Museum, Albany, N.Y.*, 1906, p. 20.

19. Description of Bradshaw Mountains Quadrangle, U. S. G. S. By T. A. JAGGAR, Jr., and C. PALACHE. *Geol. Atlas*, folio 126, 1905, 3 geological maps.

20. Post-Pleistocene Drainage Modifications in the Black Hills and Bighorn Mountains. By G. R. MANSFIELD. *Bull. Mus. Comp. Zool.*, XLIV, 1906, pp. 57-87, 4 pls.

J. B. WOODWORTH, *Chairman*.

THE DEPARTMENT OF MINING AND METALLURGY.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR, — At the beginning of the academic year 1905–06 the number of students enrolled in the programme of Mining and Metallurgy in the Lawrence Scientific School was 68. The corresponding numbers since 1896 are given in the table below.

	'96-97	'97-98	'98-99	'99-00	'00-01	'01-02	'02-03	'03-04	'04-05	'05-06
Students in Mining and Metallurgy .	18	17	19	30	42	67	75	68	67	68
Students in the L. S. S.	368	410	415	495	507	549	584	548	530	504
Per cent.	8.5	4.1	4.6	6.1	8.3	12.2	12.8	12.6	12.6	13.4

In 1906 the number of persons who received the degree of S.B. in Mining and Metallurgy was seven, three of these degrees being conferred with distinction. In addition three men received the higher degree of M.E. after a year of graduate study.

COURSES OF INSTRUCTION.

No considerable changes in studies were made during the year. One new course was added to the programme, namely, Course 30, Mining and Metallurgical Projects and Design. This is intended only for those Graduate Students who are candidates for the degree of M.E. or Met.E. Also the courses of the graduate year were better organized and put in good working order. In this rearrangement the intensive principle was followed as far as possible. Thus candidates for the degree of M.E. begin the year with Course 8 and give nearly all their time to it until early in November. This is then followed through the year by Courses 22, 30, 24, and 17, each of which is completed before the next is taken up. Concurrently with this work the candidates take one or two courses in other departments, which come in the usual three periods a week.

Our experience of a year with the intensive system has demonstrated that much of our work may easily and advantageously be

adapted to it. It has two important advantages, namely, in the aggregate more work is accomplished than if the subjects are spread out over the usual longer periods; and the interest of both student and teacher is better sustained. An additional advantage is that a student may enter even late in the year and finish a complete body of work without having to make up back work. But this advantage is offset by the correlative disadvantage that time lost through illness or otherwise cannot be made up in the same year. The only other disadvantage which we have found as yet is in the difficulties of adjustment with the three period a week courses in other departments. On the whole, however, the results have been so satisfactory that the Department will extend this system as far as possible to its higher courses which form part of its programme in the new Graduate School of Applied Science.

THE GRADUATE SCHOOL OF APPLIED SCIENCE.

This Department heartily favored the establishment of the Graduate School of Applied Science for several reasons, chief among which was that it promises to liberalize as well as to extend the period of training of Mining Engineers and Metallurgists, and hence to secure for these professions better all-round men. Mining Engineers in a sense are custodians and trustees as well as exploiters of the limited mineral resources of the world, and these important duties should be performed by men of broad mind and the most liberal training.

In consequence of the additional study required through the establishment of this School the student will leave us better prepared for entering on his life work. Besides this advantage (which will result from the mere addition of a year to his period of study) the student should derive even greater advantage from the nature of the work. This is of such character as to develop his initiative, to cause him to think for himself, and to solve problems without depending on the systematic and constant assistance of his teacher. Through this additional period of study the student will also have opportunity for greater specialization along any of the lines pertaining to the professions of Mining and Metallurgical Engineering.

The Department hopes that the new school will be attractive to graduates of power and capacity, not only of Harvard College, but of other colleges and scientific schools as well. Such men will be welcomed, and whenever possible will be admitted to our work without regard to whether they have completed all the desirable preparation or not. At the same time, it is evident that the requirements

in the fundamentals — in mathematics, physics, chemistry, and geology, — cannot be greatly relaxed.

LECTURES, GIFTS, ETC.

During the year the Department had the benefit of several lectures by Mr. Woolsey McA. Johnson, on Electro-Metallurgy. The system of short series of lectures on special topics by experts is one that commends itself to the Department as very useful and capable of large extension. Through a welcome gift from the Visiting Committee an important advance in this direction will be made this year in securing a repetition of Mr. Johnson's lectures, and those of others on Coal Mining, Cost-Keeping, etc.

The Visiting Committee also gave money to be used in paying the expenses of members of the Department in visiting mines and metallurgical works. The younger teachers especially will thus be helped to get and keep in touch with actual operations to the great benefit of their work as instructors. In the case of the senior teachers the benefit is not so marked, as they for the most part are actively engaged in the work of their professions.

Dr. Peters has been at work during the year on his new book, "The Principles of Copper Smelting," which is expected to appear in January, 1907.

Professors Sauveur and White spent part of the summer in England and on the Continent. In London they attended the joint meeting of the Iron and Steel Institute and the American Institute of Mining Engineers, and both read papers — Professor Sauveur on "The Constitution of Iron-Carbon Alloys," and Professor White on "A New Colorimeter" of his own invention.

At the May meeting of the Iron and Steel Institute of Great Britain, Dr. H. C. Boynton presented a report of his research on the hardness of the various constituents of steel, which he had carried out as Carnegie Scholar. At the same meeting his Carnegie Scholarship was extended for another year in order to permit this valuable research to be completed. At the end of the year Dr. Boynton resigned his instructorship in this Department in order to take a much more remunerative position with a large steel works. It was with much regret that his resignation was accepted.

During the year positions were found for fourteen men. This includes nearly all the graduates of last year and several graduates of preceding years. Some of the latter obtained excellent places on the recommendation of the Department.

SUMMER WORK.

As in the preceding year Mining 12 was given in three parts. The first part, Mine Surveying, was required of all students. This part of the course was in charge of Mr. E. E. White, assisted by Mr. E. M. Sawyer, and as usual was given at the Elizabeth Mine, South Strafford, Vermont. The class of eleven students met at South Strafford on June 16. The underground work was completed and the maps platted by June 26.

The second part of the course consisted of a voluntary excursion to the Lake Superior region. This was in charge of Professor Raymer. The party assembled in Ishpeming, Michigan, on July 2d, and remained in the Lake Superior country about three weeks. During this time ten days were spent on the Marquette Iron Range, with headquarters at Ishpeming. Through the courtesy of the Cleveland Cliffs Iron Company, the Pittsburgh and Lake Angeline Mining Company, and the Oliver Iron Mining Company the class were enabled to visit all the principal mines on the Range. The blast furnace of the Pioneer Iron Company at Marquette was visited, and the students had an opportunity of studying the operation of a modern by-product charcoal plant. A week was spent in the Copper country, and the underground workings of several of the important mines were opened to the class. Mr. F. W. Denton, General Manager of the Copper Range Copper Company, showed the class many courtesies and gave them much valuable information.

In Minnesota, the class were very hospitably received by the officials of the Oliver Iron Mining Company, through whose courtesies the most interesting mines on the Vermilion and Mesabi Ranges were opened to their inspection.

As in the preceding year the third part of the course consisted of practical work underground, which was done by the student in a district of his own selection and without supervision. A written report and note-book containing his notes and sketches are accepted as evidence of the performance of this portion of his task.

NEEDS OF THE DEPARTMENT.

In my reports of preceding years not much has been said regarding the material needs of the Department and of the directions in which it is advisable that our work should be extended. It seems desirable to set forth these needs in some detail here.

The most pressing need of the Department is more room. The Rotch Building, while not unsuitable in many ways for the purposes

of the Department, is decidedly too small. We need another large lecture room, several smaller rooms for classes and for instructors' private laboratories, for a museum and for a reading-room; and rooms in which Graduate Students could keep their books and papers, and in which they could study. We also need more room for the metallurgical laboratory work.

The museum should contain special mining and metallurgical models of shafts, furnaces, etc., showing details of equipment and construction. It should also contain a well selected series of specimens illustrating metallurgical processes and products.

Our library is a small one, and contains little more than the principal text-books and laboratory hand-books. We need especially full sets of the proceedings of the principal technical societies and of the files of the principal mining and metallurgical journals.

The most practicable way in which extra space could be secured would be to add a large one-story wing, 50×80 feet, to the west end of the Rotch Building, and provide it with a high basement. Also, there is a large amount of waste space over the chemical laboratory. The second floor could be extended over this room, and by putting in dormer windows several rooms of useful size could be obtained at small cost. The basement in the west wing could accommodate the iron and steel laboratory, which thus could be removed from the east wing and leave additional and much needed space for sulphide metallurgy. These changes could be made, including equipment and expense of moving, for about \$30,000.

The part of our work which most needs extension and improvement is the work of the summer. We need to give more time to mine surveying and to practical mining work; and, furthermore, we need a mine of our own in which these subjects may be taught uninterruptedly. At present our summer course in Mining 12 consists in part of mine surveying, in part of an excursion, and in part of independent and unsupervised underground work in the mines. The underground surveying, as at present given, is in a fairly satisfactory state; the course ought, however, to be lengthened so that the students would be required to spend about three weeks at the mine instead of ten days. Mine Surveying is a subject that can be well taught in the school, and the student can attain in it a considerable measure of skill and facility. It is one of the two subjects, assaying being the other, through which a student may readily obtain a foot-hold in mining work.

The excursion in Mining 12 is kept up for two reasons. One object is to give the student such an acquaintance with mining

operations as will enable him to follow intelligently the lectures in this subject which come during the following year. The other object is to give him, before he settles down to his life work, perhaps in one district, a general view of mining practice in several districts. The first of these objects could be better attained if the time could be spent in a mine of our own, in which the student could work as in a laboratory. As regards the second, there can be no doubt that the student would profit more from the excursion if it followed the lectures instead of preceding them.

The third part of the course, the unsupervised work of the student in the mines, is the least satisfactory. Most students come back to Cambridge with some knowledge of what a day's work is, but with very little more.

In order to improve these conditions the Department is desirous of getting a small mine of its own, which would be run for Department purposes only, and in which students could be instructed in the fundamental operations of mining. These operations should be approached from the engineering point of view, analyzed into their elements, and each element studied. It is impossible for students working as laborers in operating mines to do this. Such a mine would also be useful for Graduate Students, for sampling and geological study. To meet our requirements, the mine should have considerable ground open above drainage level, and should require no pumping; the rock should be hard so that the cost of maintenance would be small; and, lastly, it should not be too far away from Cambridge. It is believed that a satisfactory selection could be made among several abandoned properties in New England, and that such a mine could be bought and equipped for a moderate sum, and maintained as a laboratory at a small annual cost.

We also need a summer course in Metallurgy, which, at least at the beginning, should consist of a tour of inspection through metallurgical establishments. This course cannot be established until we get a thoroughly competent assistant in sulphide metallurgy.

PUBLICATIONS.

The following publications by members of the Department have appeared during the last academic year: —

The Anatomy of a Steel Rail. H. C. BOYNTON. *Harper's Magazine*, March, 1906.

The Hardness of the Constituents of Iron and Steel. H. C. BOYNTON. *Journal of the Iron and Steel Institute*, Vol. II, London, 1906.

Field Training of Students in Mineral Land Surveying. G. S. RAYMER.
Mining Reporter, May, 1906.

The Iron and Steel Magazine, Vol. X, 1905, and Vol. XI, 1906.
A. SAUVEUR, *Editor*.

Iron Manufacture. A. SAUVEUR. *Encyclopedia Americana*, 1905.

Steel Manufacture. A. SAUVEUR. *Encyclopedia Americana*, 1905.

The Constitution of Iron-Carbon Alloys. A. SAUVEUR. *Journal of the Iron and Steel Institute*, London, 1906.

The Relation of Gold and Pyrite. H. L. SMYTH. *Mining and Scientific Press*, July 14, 1906.

A New Colorimeter for the Determination of Carbon in Steel. C. H. WHITE. *Transactions of the American Institute of Mining Engineers, London Meeting*, July, 1906.

H. L. SMYTH, *Chairman*.

MINERALOGICAL MUSEUM AND LABORATORIES OF MINERALOGY AND PETROGRAPHY.

TO THE PRESIDENT OF THE UNIVERSITY: —

SIR, — There were no changes in the courses of instruction for the year. It seems to me that the quality of the students taking our courses has been improving for some time; for instance, this year, in the course in elementary petrography (Mineralogy 12), out of eleven students completing the course only one received a grade lower than *B*.

In part by the help of a friend of the Department, extensive improvements in the equipment for teaching and research have been made in the laboratories, some details of which follow: —

Lighting. — The whole lower floor, containing the lecture-room, large laboratory, and two smaller rooms, has been equipped with the Nernst electric light, which had previously given such good satisfaction in the exhibition rooms, and affords a strong white light, especially useful in dealing with minerals, and by replacing gas improves the ventilation appreciably.

Instruments, Models, and Specimens. — In optical mineralogy, a Klein crystal refractometer for determining the indices of refraction in small crystals or plates; a set of eight large sectional wooden models of the optical indicatrix after Professor Duparc; glass models illustrating the double-refraction of calcite and the construction of the Nicol prism, and five large plaster models after Professor Becke, illustrating certain optical properties of thin sections. In crystallography, sixty-nine large models of glass and wood, with stands and holders; large models of the crystal axes. In petrography, four new Bausch & Lomb petrographical microscopes; a Zeiss binocular microscope for the study of small crystals and rock powder; the great collection of two hundred and twenty-seven eruptive rocks from the Christiania basin, with thin sections, and eight hundred new thin sections of miscellaneous rocks, or about one thousand in all; smaller collections of rocks from Mexico and elsewhere.

Systematic and Exhibition Collections of the Museum. — Individual gifts were received of several valuable specimens, and a number of examples of the rarer minerals not previously represented were purchased in America and abroad; also some groups for the wall cases

of the exhibition rooms. The collection of meteorites was increased by several Finland falls (by exchange) and by new American falls, including the gift of a fine slab, weighing forty pounds, of Estacado, Texas. More than the usual amount of re-labelling, and re-writing of faded labels, was done.

With such accessions and improvements we ought to appear contented, only these additions of one year to our already extensive plant increase by so much the mechanical labor involved in the proper use and care of so many objects; the labelling of specimens and sections, and the taking out and putting away for lectures and laboratory work, is a constant drain on the energy and time of the officers; and yet the work can be done not by temporary assistants, who would have to learn anew from year to year, but only by a permanent, handy man, of good intelligence.

Professor Palache has been engaged during the winter and part of the summer in the completion of a monograph on the minerals of Franklin Furnace, and has begun a similar work on the Lake Superior region. He has published the following paper: On Octahedrite, Brookite, and Titanite, from Somerville, Massachusetts, U. S. A. (with 8 text figures). *Festschrift Harry Rosenbusch*, pp. 311-321. The Curator spent the summer in travel in Mexico, also attending there the sessions of the Tenth International Geological Congress, and incidentally ascending the volcanoes of Colima and Orizaba.

JOHN E. WOLFF, *Curator*.

THE PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,— By the death of Mr. Stephen Salisbury on November 16, 1905, the Museum lost an active member of its Faculty and a generous patron. Mr. Salisbury was a member of the Board of Trustees from 1887 until the Trustees, by special Act of Legislature, made over their trust to Harvard College in 1897, and since that time he was a member of the Faculty of the Museum, and was seldom absent from its meetings. Mr. Salisbury was deeply interested in our archaeological researches in Yucatan, and for several years he had contributed largely to our subscription fund for research in Central America and Mexico. He also aided the Museum in other ways. His latest gift was applied to the electric lighting of the library, laboratory, and work-rooms of the Museum. At the annual meeting of the Faculty of the Museum, held on January 15, 1906, Mr. Augustus Hemenway was unanimously nominated to fill the vacancy caused by the death of Mr. Salisbury, and this nomination was confirmed at a meeting of the President and Fellows of Harvard College on January 29.

From our Central American explorers we have received much valuable material for the further study of the physical characters, arts, culture, and hieroglyphic writing of the ancient peoples of that region. From Mr. Edward H. Thompson we have received a number of moulds of interesting sculptures at Chichen Itza, and from Mr. Teobert Maler, moulds of sculptures discovered by him. Mr. Maler has sent in an extensive report, with many beautiful photographs to illustrate the texts. This report will soon be published as one of our Memoirs. The deplorable fact that it is impossible to exhibit any more casts of these Central American sculptures and hieroglyphs, and thus make them available to students, adds emphasis to my several appeals for the means to complete the Museum building.

The fourth annual expedition to the State of New York was conducted by Mr. M. R. Harrington as in former years. An exploration of an ancient Iroquois site yielded a good collection of implements, ornaments, pottery, and skeletons. Among the objects are some new forms and a few rare types. This work was carried on by means of the Henry C. Warren Exploration Fund, aided to a

small extent by the income of the Huntington-Frothingham-Wolcott Fund. The Museum is deeply indebted to Mr. H. J. Heath of Rodman for his many kindnesses to members of the expedition as well as for his gift of several interesting pottery pipes and stone implements. We are also indebted to Dr. Getman of Chaumont, Mr. N. H. Oatman of Adams Centre, and Messrs. Kilmer of Pierrepont Manor for specimens made of pottery and stone given to Mr. Harrington for the Museum.

During the summer of 1906 Mr. Ernest Volk continued his researches for the Museum in the glacial deposits near Trenton, N.J., in connection with my long-continued study of the antiquity of man in the Delaware valley. Several paleolithic implements were found, and additional geological facts were obtained in confirmation of the antiquity of man in the valley. This work was done by the gift of Mr. Clarence B. Moore.

The Peabody Museum South American Expedition is organized and will start about the middle of December. Arequipa, Peru, will be the field headquarters. The purpose of the expedition is to study the native peoples of the Eastern Andean region of Peru, Brazil, Bolivia, and Argentina. The anthropological material secured will be the property of the Museum, and other divisions of the University Museum will be remembered by the party while in South America. This expedition is under the patronage of a Harvard graduate, and it will be continued for three years. The Museum is very much indebted to President Roosevelt and to Secretary Root for the personal interest they have taken in this expedition, and for their kindness in giving personal letters endorsing the objects of the expedition as well as official letters to our diplomatic corps in the several countries which will be visited by the members of the expedition.*

I also have the pleasure of gratefully acknowledging the most generous offers of courtesy and assistance from the President of the Inca Mining Company of Tirapata (Peru), Mr. C. P. Collins, who has requested the General Manager in Peru to coöperate with the expedition in every way possible and to extend to the party all the courtesy of the company without charge, including the facilities of its transportation lines and commissary department. Thanks are also due to the National Phonograph Company for the gift of a phonograph and record blanks for the use of the expedition.

* Since this report was submitted notice has been received from the Department of State that the courtesies of the Peruvian Government will be extended to members of the expedition.

At the annual meeting of the Faculty of the Museum in January, 1906, Dr. R. B. Dixon was appointed Assistant in Ethnology and Librarian of the Museum, and Dr. W. C. Farabee was appointed Assistant in Somatology. The Faculty of the Museum has appointed Mr. Louis J. de G. de Milhau (A.B. 1906) and Mr. John W. Hastings (A.M. 1906) members of the Museum staff as Ethnologists of the South American Expedition. Dr. Farabee has been appointed Field Director of the Expedition, having been granted leave of absence by the University.*

The income of the Huntington-Frothingham-Wolcott Fund has been used for the purchase of rare specimens needed in our exhibits, for the making of a number of small models of Indian habitations for our North American Indian Hall, and, to a small amount, for the archaeological expedition to New York State.

The income of the Susan D. Warren Fund has been applied to the cost of cases in the Indian gallery, in accordance with a vote of the Museum Faculty.

During the year Mr. Willoughby has given particular attention to the identification and labelling of the collections from the Pacific Islands and from the various American Indian tribes. In connection with the latter exhibit he has carefully superintended the construction of several models representing the dwellings and customs of the North American Indians, and we hope to add to these models from time to time until we have the various types of habitations represented in this way. He has rearranged several archaeological collections so as to bring them into closer geographical connection, and has added a number of framed groups of photographs illustrating the physical characters, dress, and customs of the different peoples, in connection with the ethnological collections.

We are indebted to Mr. S. J. Guernsey for his skilful modelling of the houses in the Haida group and the small human figures in the several model groups.

The Anthropological Library has been rearranged under the direction of Assistant Professor Dixon in accordance with the method adopted in the University Library. The library has received valuable gifts from friends of the Museum and Division, and has added some important exchanges during the year. 151 volumes and 149 pamphlets were added, making the total 3,422 volumes and 3,070 pamphlets.

* Since this report was submitted, Edward F. Horr, M.D., has been appointed Surgeon of the expedition by the Faculty of the Museum.

During the past year the Museum has issued one of its serial papers, "The Mandans: A Study of their Culture, Archaeology, and Language." By G. F. Will and H. J. Spinden. *Peabody Museum Papers*, Vol. III, No. 4, 1906. The archaeological section of this paper is based on the exploration at Mandan, North Dakota, carried on by the authors last summer. The material collected, which is now in the Museum, is described and illustrated. The study of Mandan Culture and Language was made under the supervision of Assistant Professor Dixon, who also superintended the beginning of the field work at Mandan. This exploration and publication were made possible by the gift of Mr. Clarence B. Moore.

Dr. Dixon has given instruction in the Division for the past ten years, and has now been promoted to an Assistant Professorship. Dr. W. C. Farabee has been given leave of absence from the Division to take charge of the South American Expedition. Course 1 will be given by Assistant Professor Dixon and Dr. Tozzer. Dr. Charles Peabody will give Course 4. In December, 1905, Dr. Peabody was appointed, by the Board of Overseers, a member of the Visiting Committee of the Museum and Division, but at the close of the College year he resigned from this Committee to accept the appointment of Instructor in European Archaeology and Ethnology in the Division. The special courses in Somatology, given by Dr. Farabee, will be omitted in 1906-07. A new research course is to be offered by Dr. Tozzer, — Central American and Mexican Hieroglyphic and Picture Writing. Mr. Stefánsson, Hemenway Fellow and Assistant in the Division, was given leave of absence on April 30 to accompany as ethnologist the Anglo-American Expedition among the Arctic Eskimo. Mr. H. J. Spinden (A.B. 1906) has been appointed Hemenway Fellow and Assistant in Anthropology for 1906-07.* Mr. Irwin Hayden has been reappointed Winthrop Scholar for 1906-07.

During a portion of the summer Dr. Dixon continued his researches, linguistic and ethnological, among the Indians of California. Later he attended the International Congress of Americanists, and presented a paper on "Linguistic Relationships within the Shasta-Achomawi Stock."

Dr. Farabee spent some time in making an examination of the pre-historic earthworks in the Ohio valley, and in personally exploring the Bryson Mound, which yielded a small but interesting lot of specimens for the Museum.

* This appointment was afterward changed to Austin Teaching Fellow in Anthropology.

On February 27 Dr. Tozzer started on a four weeks' lecture trip under the auspices of the Archaeological Institute of America, including in his itinerary nineteen of the principal cities between Boston and Chicago. His lectures, which were given before universities and other educational institutions, presented the results of his four years of research in Central America while holding the American Fellowship of the Institute as well as of his studies in the Museum. These lectures were so successful in interesting many persons in archaeological research in America, that he has been requested by the Institute to give a series this year in the principal cities from Chicago to the Pacific coast. This invitation he will be obliged to decline owing to his duties in the Division and Museum. Dr. Tozzer spent the summer in Europe, studying the Spanish manuscripts in the Archives of the Indies at Seville, and, later, in visiting the principal museums of Europe. On his return he presented the following papers before the International Congress of Americanists: "Some Survivals of Ancient Forms of Culture among the Mayas of Yucatan and the Lacandonnes of Chiapas," and "Notes on the Maya Language spoken in Yucatan."

Fortunately for our Museum as well as for the students of ethnology, our good friend, Mr. Lewis H. Farlow, has continued his intelligent collecting of objects illustrative of the life and customs of the North American Indians, and has given to the Museum all the specimens he has secured. During the past year he has added a wealth of rare old material to the already large collection exhibited in his name. Among the recent additions are: Specimens illustrating the culture of the Kwakiutl and Nootka branches of the Wakashan tribes of southwestern British Columbia and Vancouver Island, including clothing, ceremonial paraphernalia, weapons, basketry, and other household utensils; from the Quinault, Quilliute, and other tribes of the Salishan family, baskets and other objects, including several jade celts from the Fraser river region; from the Hupa and Yurok of the Trinity and Klamath rivers, California, a very complete collection, including the ancient slate armor belonging to Cañon Tom, also beautiful headdresses of woodpecker heads and feathers, an ornamented deerskin, and other objects worn and used in the White Deer Skin and Jumping Dances; from the Weigat of Zumboldt bay, several important objects; from the Pomo, a complete doctor's outfit, a dance costume, baskets, household utensils and mats, and a ceremonial drum made in 1869 from an old dugout canoe, used until 1876, and after the annual ceremony of that year hidden in a house for years and then removed and placed in a pond

in Lake County, California, whence it was taken by Cah-i-da-no, an old Pomo chief, the only man living who knew where it was concealed; from the village of Pojuaque, an extinct Rio Grande Pueblo, an interesting ceremonial drum made of a hollowed section of a cottonwood log with rawhide stretched across either end; from the Eskimo of Kuskokwim river, Alaska, nine pottery lamps and three cooking vessels. Other tribes represented are the Nez Percé, Ute, Crow, Cheyenne, Winnebago, Apache, Navajo, Washoe, and the Yuman and Shoshonean tribes of California. One of the most valuable objects in Mr. Farlow's collection of the past year was obtained from a Mission Indian of Southern California,—a ceremonial knife with a large leaf-shaped flint blade set in a long wooden handle, the part nearest the blade being inlaid with small pieces of *Haliotis* shell. The specimen is very old and of a prehistoric type, as shown by a fragment of a similar inlaid handle found in a burial-place on Santa Catalina Island.

Dr. L. C. Jones of Malden continues to manifest an enthusiastic interest in securing specimens for the Museum. Our exhibits bearing his name have been increased during the past year as follows: Ceremonial paddle from the Austral Islands; shark's tooth spear from the Gilbert Islands; Samoan club; Fiji missile club; Tonga club; New Guinea belts, headdresses, and armlets; war clubs from New Caledonia; shield, bow and arrows from the Solomon Islands; beaded bag from the Winnebagos; several stone pipes from the Micmac Indians of Nova Scotia; a carved stone pipe from Eastern United States; a terra cotta pipe and stone carving from a grave at Nantasket; an old Algonkin club and Sioux tomahawk; a Moki bowl and a bead ornament belonging to Geronimo; a water jar from Pueblo of Sia, and an old Cochite bowl; a Tlingit canoe model; potsherds from Missouri, New York, Florida, and Central America; stone implements from Maine, Massachusetts, Kentucky, Indiana, Pennsylvania, Arkansas, Tennessee, and other parts of the United States; stone implements and shell celt from the West Indies; gourd and tube for drinking maté, from Buenos Aires, also a clay maté cup; a pipe from Africa; a small Egyptian bust; Egyptian beads; terra cotta bust and glass vessel from near Rome; and a Japanese bronze plate.

Miss Adela C. Breton of Bath, England, has continued her gifts to the Museum by sending us two colored drawings of the caryatid figures supporting the altar, and of the figures on the top of the altar, at the entrance of the Painted Chamber in the Temple of the Tigers: a hand-painted copperplate of a portion of the fresco

on the south ceiling of the Painted Chamber, and full-size reproductions of portions of the mural paintings in the Chamber; also a colored drawing of a portion of a fresco in the Monjas, Chichen Itza.

By gift of Miss Mary L. Ware of Boston, we have secured Miss Breton's reduced copies of her water-color drawings of the Chichen Itza mural paintings, which were exhibited at the Quebec meeting of the Americanists. All these paintings by Miss Breton are accurate reproductions of the figures and colors of the ancient bas-reliefs, sculptures, and mural paintings, and were made by her with great labor and painstaking. With the feeling of the true artist and with full appreciation of the scientific importance of accuracy in copying these prehistoric works, Miss Breton spent several seasons among the ruins, giving her time, strength, and skill to making these invaluable copies for the further elucidation of the story of the ancient peoples of Yucatan.

Miss Ware's gift has secured for us by purchase another old manuscript volume of 356 pages in the Pocom language of Guatemala, discovered by Mr. Robert Burkitt. It is the longest text known in this language, and was probably written about two hundred years ago by Dominican missionaries.

Through Miss Ware's kindness we have also been able to secure the services of two student assistants, who spend a portion of their time in assisting in the library work of the Museum and in taking care of the library during the hours it is open to students in anthropology.

From other friends of the Museum we have received the following gifts: —

Miss Grace Nicholson, a Makah dugout canoe, a piece of tule matting from an ancient sweathouse, Sulphur Lake, Cal., a model of a boat, Neah Bay, Washington, face paint of the Quinault, and soaproot used in washing the Pomo baskets; Mr. Charles P. Bowditch, a palm spathe cap worn by Indians of Colombia; Mrs. H. T. Field, an old Hawaiian mat, formerly the property of King Kamehameha III; Mrs. Crosby Brown, photographs of musical instruments; Dr. Alexander Agassiz, views of the great statues and other archaeological remains on Easter Island; Mr. H. R. Gardner, two Brazilian pottery water coolers; Mr. C. A. Thompson, photograph of bird stone from Michigan; Miss S. Minns, three Indian dolls and a horn spoon; Mr. C. Bangs, flint arrow points, knives, and chips from Snake river, Oregon, and chipped implement, stone celt, and worked antler from Wareham, Mass.; Mr. H. N. Rust,

shell implements from San Miguel Island, Cal.; Dr. A. M. Tozzer, ceremonial jar and shell necklace of the Lacandon Indians, and grooved stone from western New York; Dr. W. McM. Woodworth, guitar from Senegambia, Africa, a Savage Island club, a small wooden bowl, a basket and two pillows from Fiji, mask from New Hebrides, firesticks from North Queensland, and berry pestle of the Tlingit Indians; Mr. E. R. Zalinski, metate and muller from Blue Bell mine, Arizona; Mr. George W. Hammond, a beautiful and rare old basket of the Mission Indians of Southern California, specimens of old Norse wood-carving, including a cabinet, beer cups, hames and saddle ornaments, effigies of human figures, etc., and a painted panel from the old Spanish Church at Pecos, N. M.; Miss Emily Spinney, a grooved stone hammer from Elliot, Maine; Mrs. F. W. Putnam, a woman's fur shoulder cape, probably northern California; Mr. Edward H. Thompson, six tally sticks used by Indians of Yucatan for recording their work; Dr. Hamilton Rice, a headband, blowgun, quiver and poisoned arrows, bow, paddles of different types, carrying-bag of native textile work, several necklaces, and a ceremonial drum of the Zaparo Indians, Napo river, Ecuador; Dr. W. L. Smith, 13 photographs of natives of New Guinea; Miss C. A. Benneson, a notched stone net-sinker from Lodi Point, New York; Mr. Thomas Anderson, an old fish net made of the inner bark of the willow by the Slave Indians, presented through Mr. Stefánsson; Mr. Owen Bryant, chipped knives, spear-points and arrow-points, polished slate points, polishing stones, celts and gouges, soapstone pots, a soapstone lamp, and other objects, from graves and village sites of the Beothuks on the shores and islands of Notre Dame Bay, Newfoundland.

In closing this fortieth report on the Museum, which covers the fiftieth anniversary of my coming to Harvard as a student in the Lawrence Scientific School, I beg the privilege of taking this opportunity of extending my sincere thanks to the several scientific institutions and societies, to the many friends, and to all my students and assistants, past and present, who united in sending to me their congratulations and kindly testimonials in recognition of my completion of fifty years of study and teaching. One of these testimonials may be appropriately mentioned here, since it is of special importance to the Museum, as well as most gratifying to me. The following letter refers to the generous gift of President Morris K. Jesup of the American Museum of Natural History in New York, where for nearly ten years, with the approval of the President and Fellows of

Harvard College, I was able to take an active part in the organization and development of the Department of Anthropology : —

“MY DEAR PROFESSOR PUTNAM : —

“President Jesup feels that the American Museum ought to do something to recognize the fifty years that you have spent in scientific work at a sister institution, and I am therefore authorized to state, for him, that if you will commission Mr. Willoughby or some other representative to come to New York, at our expense, we will give him permission to select ethnological material sufficient to fully illustrate the life of the inhabitants of the Philippine Islands, leaving you to make such disposition of this collection as you may think best.

With the expressions of the most sincere personal regard,

I am ever,

Very truly yours,

(Signed) H. C. BUMPUS, *Director.*”

A typical collection was selected by Mr. Willoughby from the great mass of material in the New York Museum and this was duly received. It was then my privilege and pleasure to present this valuable collection to the Peabody Museum.

F. W. PUTNAM,

Peabody Professor and Curator of the Museum.

THE SEMITIC MUSEUM.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—Among the accessions during the year have been the following:—

1. *By gift.*—A small collection of modern Moslem objects, given by Miss Ellen Hammond; several antique seals and coins from Babylon and vicinity, given by Miss Alice Longfellow; a silver medal struck in commemoration of the 250th anniversary of the first settlement of Jews in the United States, given by the Executive Committee in charge of the celebration; ten Morocco coins from the reigning sultan and his predecessor, given by Mr. Reuben S. Cohen; and a detail of the Alhambra in plaster, given by Mrs. Elizabeth Y. Hayes.

2. *By purchase.*—A plaster copy of the Babylonian monument containing the code of laws promulgated by Hammurabi about 2250 B.C.; an inscribed clay cylinder of Nebuchadrezzar recording a temple restoration, and a number of other Babylonian tablets; a series of photographs taken in 1904–05 by Professor Nathaniel Schmidt during his tours on and around the Dead Sea; about 400 photographs of oriental objects in the British Museum; and, most important of all, 230 Arabic manuscripts.

The money given in 1899 for the purchase of additions to the collections being nearly exhausted, the founder of the Museum offered to duplicate any sum given by others up to \$5000. The result was a contribution of \$10,015 made by 83 persons. Much of this came from former donors, but the list of givers contains also many new names. This contribution is a gratifying evidence that the Museum continues to interest its old friends, and that it has at the same time the power to make new friends. At the average rate of expenditure for purchases, the sum contributed will meet our needs for two or three years. In connection with the subscription the Curator gave at the Museum three informal lectures on the collections and five lectures on the Hammurabi code of laws.

In the Palestinian Room there has been a re-arrangement of some of the specimens, and certain parts of Dr. Schick's models of the Temple not hitherto exhibited at the Museum have been placed on exhibition. The framed photographs have all been provided with printed labels.

The most important event of the year is the change in the constitution and scope of the committee appointed by the Board of Overseers to visit the Department. Hitherto this was a committee on Semitic Languages. It is now a committee on "The Semitic Museum and the Division of Semitic Languages and History," and consists of eight members, namely, the three who constituted the old committee (Messrs. Schiff, Straus, and Wigglesworth), and Messrs. William C. Loring, David A. Ellis, William C. Endicott, John W. Morss, and Henry W. Peabody, all of Boston.

As stated in the *Gazette* of March 16, 1906, the object of the changes in the committee is "to make it coördinate with other committees on museums, and also in order to increase in Boston and its vicinity the number of those who take special interest in the further development and the increased usefulness of the Museum." In April, 1906, the new members of the Committee and the teachers of the Department held an informal meeting at the Museum.

The committee in charge of the American School of Oriental Study and Research in Palestine having invited the Curator of the Museum to be the Director of that School for the year 1906-07, the President and Fellows have granted him leave of absence for that purpose. It is hoped that a year in Palestine may result in many accessions to the Museum.

DAVID G. LYON, *Curator*.

THE FOGG ART MUSEUM.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—I have the honor to present the following report on the Fogg Art Museum for the year 1905-06:—

Our accessions are: A diptych by Rogier Van der Weyden, bequeathed by the late George W. Harris, Esq., of Boston; a Greek marble statue of Aesculapius, given by Dr. Rupert Norton, '88; a small Greek marble head of Zeus; a small picture in tempera, representing the Sacrifice of Cain and Abel, ascribed by Messrs. Crowe and Cavalcaselle to Raphael, but now thought to be by some other painter of the sixteenth century; an oil painting of St. Peter Martyr, ascribed to the Venetian painter Lorenzo Lotto; a drawing by Fra Bartolommeo; a drawing, perhaps by Sogliani, bearing the name of Timoteo Vite; a drawing of early Florentine character, ascribed to Masaccio; and an early water-color drawing by J. M. W. Turner, all deposited by Mr. Edward W. Forbes; and an ancient Greek bronze cista, deposited by Mr. James Loeb, '88. To the print collections have been added nine prints, constituting the so-called Round Passion, engraved by Lucas van Leyden, purchased out of the income of the Gray Fund at a cost of \$656.10; a proof etching of Hornby Castle, of Turner's Richmondshire series, Crowhurst, a mezzotint engraving by Frank Short, after Turner's Liber plate of the same subject; The Deluge, a mezzotint engraving after Turner by J. P. Quilley, and St. Catherine's Hill, in the etched state, from Turner's Liber Studiorum—gifts from Mr. Francis Bullard, '88, of Boston.

To the collection of photographs 2,076 additions have been made. These comprise illustrations of the architecture, sculpture, and painting of Siena of various epochs, works found in the excavations of Delphi, and paintings, including many portraits, by early French artists.

To the collection of slides 67 additions have been made, illustrating Egyptian painting and sculpture, ancient Persian architecture and sculpture, Italian, French, English, and Spanish painting, Mediaeval architecture, and Modern English architecture.

To the Museum Library the following books have been added: By purchase from the income of the Searle Fund, Velasquez (1 vol.) and Michael Angelo (1 vol.), of the *Klassiker der Kunst* series;

Lippincott's Pronouncing Gazetteer of the World (new edition); Lippincott's Biographical Dictionary; Kristeller's *Andrea Mantegna*; Dimier, *Le Portrait du XVI^e Siècle au Primitifs Français*; Marucchi, *Il Museo Egizio Vaticano*; A. de Vesme, *Le Peintre-Graveur Italien*; Rawlinson, *Turner's Liber Studiorum* (2d edition). By purchase from the income of the Randall Fund, Lafenestre and Richtenberger, Rome, vol. i, of the series *La Peinture en Europe*. By gift from H. Helbig, of Munich, *Die Sammlung von Pannwitz* — an illustrated catalogue; from Professor C. E. Norton, *Three Keys to the Camera della Segnatura of the Vatican*, by Eliza A. Starr; from Mr. Francis Bullard, *Mr. Whistler's Lithographs*, a catalogue by T. R. Way; from Miss Grace Norton, *Stuart and Revett's Alterthümer zu Athen*, lief. 28, pl. 7, 8, 9, 11, 12; and from the author, Dr. Edmund von Mach, '95, *Outlines of the History of Painting*.

The diptych attributed to Van der Weyden is a thoroughly fine example of Flemish painting in the fifteenth century, and is the first original work of this important class that has come to us. The picture is in tempera, on hard-wood panel, and is in perfect condition. It is a portrait of a gentleman kneeling in adoration before the Virgin and Child, with a Bishop in full canonicals standing behind him. The coloring has an almost Venetian quality, and the close elaboration of details is remarkable, even for Flemish work of the period.

The so-called Aesculapius is a characteristic example of later Greek sculpture in a good state of preservation, save for the forearms, which are modern restorations, and some abrasions on the feet. The small Greek marble head of Zeus is much injured in its surfaces, but some parts remain unhurt. The small painting which has been attributed to Raphael may well have been designed by that master, if not executed by him. It has characteristic qualities, and much beauty of workmanship, especially in the sky and background. The picture ascribed to Lorenzo Lotto is a finished example of later Venetian painting. The early Florentine drawings have the appearance of authenticity, and are valuable acquisitions. The water-color drawing by Turner exhibits a phase of his early work not shown in the other drawings of our collection, and is a useful addition to our synoptical series illustrating the development of Turner's genius; and the bronze cista is an unusually fine specimen of the class of objects to which it belongs, and has two small figures on the lid of considerable beauty.

Of the ancient bronze tripods sent us last year by Mr. James Loeb, and mentioned in my last report, two have been lent, at

Mr. Loeb's request, to the Metropolitan Museum of Art of New York. These tripods were received in many fragments, and they appear to have been found in that condition — the edges of the fragments being encrusted with patina, which would indicate that they must have been broken in antiquity. The work of assembling the pieces has been carried on steadily during the past year, at Mr. Loeb's expense, and although the objects are yet incomplete, enough has been done to show their general character, and their beauty of line and surface. The one remaining here will be placed on exhibition as soon as a suitable case can be prepared.

The very rare and beautiful collection of Aretine moulds and vase fragments, also sent us last year by Mr. Loeb, and referred to in my last report, has been classified and arranged by Dr. G. H. Chase, Curator of Classical Antiquities of the Department of the Classics, and Dr. Chase has prepared a monograph on them which will shortly be published.

The number of photographs catalogued during the year was 1,250 and the total number now catalogued is 35,144. The number of slides catalogued was 67. An Index to the plates of the work by Dehio and Bezold, *Die Kirchliche Baukunst des Abendlandes*, which have been mounted for the use of students, has been made. This Index combines into one the five partial indices, three of which existed in print, and two in manuscript, and includes some figures not before indexed. The number of photographs mounted was 1,683.

Photographs were lent 230 times to the Department of Architecture, the Harvard Union, to various members of the University, to the Social Union, and to various outsiders. Slides were lent 202 times to the Department of Architecture, to Radcliffe College, to the Boston Public Library, and to a few outsiders.

The number of visits to the photograph room, by persons using photographs for study, was 675. Of these, 506 were by members of Harvard University. The sum of \$12.90 was received from the sale of catalogues and photographs.

In the Print Department, 9 prints (new accessions) of the Gray Collection, and 811 of the Randall Collection, were catalogued. The total number of prints of the Randall Collection now catalogued is 10,234. The number of prints mounted was 18. A list of line-engravings after Turner, for a catalogue of the exhibition of prints lent by Mr. Francis Bullard, to be mentioned below, was prepared; and considerable work has been done on a list of portraits in our own print collections.

The number of visits to the Print Department for the study of prints not shown in the exhibition cases was 334, of which 283 were by members of the University. The time consumed in showing prints was 206 hours.

Photographs have been mounted, and other mechanical work has been done, for the Department of Philosophy, Radcliffe College, and for several outsiders, for which the sum of \$156.89 has been received.

During the winter a collection of line-engravings after Turner, lent by Mr. Francis Bullard, was placed on exhibition in the Print Room. This collection is still on view, and will remain so for some time longer. The prints are all exceptionally fine proofs, and many of them have been touched by Turner. During the year a much needed case, with a capacity for the storage of 5,000 photographs, was added to our equipment; but the accumulations of several years were such that this has been found to be inadequate, and we still have photographs, to the amount of several hundred, awaiting additional storage space.

The Department of the Classics having begun the formation of a collection of classical antiquities, and a curator of such objects having been appointed for this Department, the advantage of combining this collection with the classical collection of this Museum naturally suggests itself, and the idea is favored by both the Department of the Classics and that of the Fine Arts. The union of these two collections would appear desirable from all points of view, but chiefly from considerations of convenience of use and economy of administration. A collection of casts of ancient portraits of Julius Caesar, belonging to the Classical Department, is now deposited here for want of any other suitable place for its exhibition. But the collections of the Fogg Museum having already outgrown the space afforded by our present building, additions to the building, with well lighted galleries for the proper display of our important original works of art, are urgently needed. As I have said in a former report, plans for additions, which would give two properly lighted galleries, have been made, the estimated cost of which would be about \$40,000 and \$50,000 respectively. One of these galleries would provide for the combined Collections of Classical Antiquities, with room for considerable growth; and the other would accommodate our early Italian and other original paintings of great schools of the past.

CHARLES H. MOORE, *Director*

THE GERMANIC MUSEUM.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—The progress of the Germanic Museum during the past year may be summed up in three facts: the beginning of collections for an Emperor William Fund, the publication of an illustrated Handbook of the Museum, and the announcement of an important gift from the King of Saxony.

The Emperor William Fund is intended to serve as a permanent endowment of the Museum. It was started last February, on the occasion of the silver wedding of the German Emperor and Empress, and is meant, apart from its ultimate purpose, as an expression of American recognition of the many tokens of international friendliness shown toward this country by the German government and people. The sum of \$25,000 has thus far been raised, consisting of the following subscriptions:—

Alexander Agassiz, Cambridge	\$1,000	Amount brought forward	\$17,710
James Barr Ames, Cambridge	500	E. D. Leavitt, Cambridge	10
Anonymous, New York	500	Margaret A. Leavitt, Cambridge	10
Anonymous, Boston	600	George V. Leverett, Boston	200
Anonymous, Boston	350	T. K. Lothrop, Boston	200
Mrs. Henry P. Bowditch, Boston	100	Mrs. Natalie Nixdorff, Cambridge	25
Adolphus Busch, St. Louis	2,000	Francis G. Peabody, Cambridge	100
Alvin Carl, Boston	10	Mrs. John C. Phillips, Boston	100
Heinrich Conried, New York	500	George Putnam, Boston	100
W. Murray Crane, Dalton	500	Henry W. Putnam, Boston	50
Ellis L. Dresel, Boston	50	A. C. Ratshesky, Boston	50
Charles Ehlermann, St. Louis	100	Hugo Reisinger, New York	50
George Ehret, New York	500	A. Lawrence Rotch, Boston	100
Charles W. Eliot, Cambridge	100	J. G. Rosengarten, Phila.	100
Arthur F. Estabrook, Boston	500	Edward Ruhl, Boston	25
Frederick P. Fish, Boston	1,000	Jacob H. Schiff, New York	1,000
Germanic Museum Association	350	Mortimer L. Schiff, New York	1,000
Germanische Gesellschaft, Pitts-		Carl Schurz, New York	50
burg	50	Mrs. Gideon Scull, Boston	50
John Hays Hammond, New York	100	A. Shuman, Boston	100
Mrs. J. H. Hecht, Boston	250	Hermann Sielcken, New York	1,000
Paul Heine, Lancaster, Pa.	500	William Tausig, St. Louis	185
Hermann V. Hilprecht, Phila.	25	Augustus H. Vogel, Milwaukee	100
Otto H. Kahn, New York	5,000	Felix M. Warburg, New York	1,000
Charles H. Keep, Washington	100	Paul M. Warburg, New York	1,000
David P. Kimball, Boston	2,500	Mary L. Ware, Boston	50
Antonio Knauth, New York	25	Walter Wesselhoeft, Cambridge	50
Mrs. Percival Knauth, New York	25	Mrs. Walter Wesselhoeft, Cam-	
Knauth, Nachod & Kühne, New		bridge	10
York	100	Robert W. Willson, Cambridge	50
Hugo A. Koehler, St. Louis	25	Mrs. Anna Woerishoffer, New	
Gardiner M. Lane, Boston	250	York	500
William Lawrence, Boston	100	John M. Wulffing, St. Louis	25
Amount carried forward	\$17,710	Total	\$25,000

A gratifying beginning has thus been made. But it is clear that in order to be of far reaching and effective service in the upbuilding of a great museum, truly representative of the history of German culture, an endowment fund of at least \$100,000 should be raised, and I herewith repeat the earnest appeal of my former reports to all American friends of Germany to help in this worthy cause. That the Corporation of Harvard University is fully alive to the importance of this cause is shown by the establishment during this year of a professorship of the history of German culture. This professorship is intended to bring out the intimate interdependence of all manifestations of national culture — whether intellectual, literary or artistic — and illustrates the organic connection between the Germanic Museum and the literary and historical departments of the University.

Apart from the sums mentioned before, the Museum has received from Mr. Alexander Cochrane of Boston \$500 for defraying current expenses.

The Handbook of the Museum referred to above contains a succinct description of the whole collection now installed. It brings out the striking fact that the Germanic Museum of Harvard University possesses a fuller and more systematically selected exhibit of casts of mediaeval German sculpture than exists at present in Germany itself. This fact has since been publicly recognized in Germany. A recent review of the Handbook in the *Berliner Tageblatt* says: "The feeling with which a connoisseur of our own museums peruses these pages is by no means that of condescension, but rather of envy. For not a single German city possesses a collection of reproductions of our plastic masterpieces which in scope or arrangement could be compared with this young institution. In most of our museums, for instance, we have only parts of such wonderful plastic achievements as the romanesque sculptures of Freiberg or Naumburg, and the student is forced to put them together piece by piece in his own imagination, whereas in Cambridge they are brought to view in their whole grouping and within their architectural framework. Thus this Germanic Museum in America is going to be of importance for Germany too; for something of this sort must be created here also." I fear that this statement is somewhat too flattering for us. For the great and incomparable Germanisches Museum at Nürnberg possesses in its collection of casts a good many important things which we do not have; and the additions now planned for the Royal Museum at Berlin will probably soon outstrip our exhibit. But it certainly is encouraging to hear such words of sympathy from the Fatherland; and I cannot forego mentioning that in the second edition of the

"Handbuch des Deutschtums im Auslande" (Berlin, Dietrich Reimer), which has just appeared, Professor Friedrich Paulsen has at the head of the section dealing with North America a most sympathetic article on our Germanic Museum in which he greets it as the most significant achievement of German educational activity in this country, and expresses the hope that it will soon come to be fully and in every respect what it is meant to be: an artistic symbol of the unity of the Germanic race.

That active support also continues to be bestowed upon the Museum from Germany is proven in a most gratifying manner by the recent communication received from the Ministry of the Royal House of Saxony, that His Majesty the King of Saxony has given to the Museum a reproduction of the Romanesque pulpit of the Church of Wechselburg, and that this gift is already on its way. This beautiful monument of thirteenth century North German sculpture is a worthy counterpart to the finest monuments which we owe to the German Emperor; and it is pleasant to think that two of the oldest German dynasties — together with the ancient Swiss Confederacy — will by these gifts be represented side by side on American soil.

Although the Museum during the last three years has been open only for two full days and two afternoons of each week, it was visited during that time by more than 75,000 persons.

The Germanic Museum Association has suffered during the year a great loss through the death of its honored President, Carl Schurz. Even to the last, Mr. Schurz exerted himself earnestly for the interests of the Association, and several of the contributions to the Emperor William Fund are due to his solicitation. The Association expressed to Mr. Schurz's family its deep sympathy with their bereavement, and was officially represented at the meeting recently held at New York to commemorate the career of this foremost American citizen of German birth. To fill the vacancy created by Mr. Schurz's death, the Association elected the following officers: President, Mr. Adolphus Busch of St. Louis; First Vice-President, Mr. Frederick P. Fish of Boston; Second Vice-President, Mr. Otto H. Kahn of New York. To the list of Honorary Vice-Presidents was added the Imperial German Ambassador at Washington, Baron Speck von Sternburg; and the Board of Directors was increased by the election to it of Mr. Antonio Knauth of New York. All these gentlemen accepted the offices to which they were elected.

The balance of money on hand in the treasury of the Association is \$1,623.22, which includes two gifts received during the year: \$8 from Mr. Charles J. Liebmann of New York and \$50 from the

Deutsch-Englischer Schulverein of Boston. Mr. Heinrich Conried, an Honorary Vice-President of the Association, as in former years, gave this year also a benefit performance for the Museum. Of the proceeds of this performance, \$500 were given to the Emperor William Fund; the balance of \$103.81 was turned over to the Germanic Museum Association. The Association has ordered two important monuments of mediaeval German sculpture, namely, the colossal Crucifixion group of the Church of Wechselburg and the Bronze Gates of the Cathedral of Augsburg. Both monuments are expected within a few months.

It will not be easy to find good places in our present Museum building for these monuments and for the gift of the King of Saxony; but we hope to be able to install them at least in such a manner as to make possible a careful study of their details. So much, however, is clear: after these three large objects have been installed, there will not be any room left for further accessions of a similar kind, and the growth of the Museum will be blocked unless we obtain the means for a larger building. The need of such a building, then, has now become altogether imperative. For, as I have often stated, this Museum is to be not only a collection of mediaeval German sculpture, but of the history of Germanic culture, containing representative monuments of the Germanic past on English, Dutch, Scandinavian, Swiss, and Austrian soil as well as German. After all that has been done for this cause from the German side, is it not now time for Americans to see to it that the artistic monuments of the Germanic past, already in our possession or to be acquired, be worthily housed?

KUNO FRANCKE, *Curator.*

RADCLIFFE COLLEGE.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—As Dean of Radcliffe College, I have the honor to submit my report for the academic year 1905–06.

The number of students in actual attendance during the year was 436, as against 416 during the preceding year.

Graduate Students	66
Seniors	47
Juniors	67
Sophomores	82
Freshmen	68
Special Students	106
Total	436

At Commencement in June, 1906, fifty-seven students, two of whom had completed their residence in an earlier year, received the degree of Bachelor of Arts. Eight students, who had not been registered as Seniors, received the degree. Of the fifty-seven successful candidates, one received the degree *summa cum laude*; eight received it *magna cum laude*; twenty, *cum laude*.

Twenty candidates received the degree of Master of Arts. Eleven of the twenty had taken their first degree at Radcliffe; the others represented the following colleges: Barnard College, University of Chicago, Elmira College, University of Indiana, Mt. Holyoke College, Smith College, University of Texas, Vassar College, University of Vermont.

The degree of Doctor of Philosophy was conferred upon two candidates: Lois Kimball Mathews, A.B. Leland Stanford Jr. University 1903, A.M. *ibid.* 1904; and Frances Hall Rousmaniere, A.B. Wellesley College 1900, A.M. *ibid.* 1904. Mrs. Mathews took her degree in the special field of History; her thesis was "A Study of the Spread of Population in the United States." Miss Rousmaniere took her degree in the special field of Logic; the subject of her thesis was "The Place of Experiment in Investigation."

The Caroline I. Wilby Prize for 1906 was awarded to Miss Rousmaniere for an essay on "Certainty and Attention," the outcome of original research undertaken in the Harvard Psychological Laboratory.

Examinations for admission were held in June, 1906, in Cambridge, Andover, Belmont (Cal.), Brookline, Chicago (Ill.), Concord (N.H.), Fall River, Kansas City (Mo.), Lynn, Milton, Omaha (Neb.) Philadelphia (Pa.), Portland (Me.), Portland (Ore.), Quincy, Springfield, Washington (D.C.), Worcester, and Youngstown (O.). They were also held in September in Cambridge. Three hundred and four candidates presented themselves for examination. Thirteen were candidates for admission as Special Students; forty-two candidates took part of the examinations or worked off admission conditions; one hundred and fifty-four took the Preliminary Examinations, and ninety-three the Final Examinations; two were admitted by examination to the Sophomore Class.

The results of the Final Examinations are given in the following table:—

	Admitted.	Admitted "Clear."
June	79	24
September	14	1
Total	93	25

Ninety-three candidates were admitted as Freshmen in 1906, as against ninety-five in 1905. The entering class of 1906-07 numbers eighty-four, and is the largest in the history of Radcliffe.

Eighty-six Graduate Students registered during the year, thirty-nine of whom were from other colleges. Twenty-six students were admitted to fifteen full courses, and thirty-two students to nineteen half-courses, of the "Courses primarily for Graduates in Harvard University open to competent students of Radcliffe College."

The members of the Academic Board for 1905-06 were Professor Byerly (Chairman), and Professors E. L. Mark, S. M. Macvane, H. S. White, J. H. Wright, E. H. Hall, H. W. Smyth, G. L. Kittredge, and C. H. Grandgent.

The vacancies in the Council made by the resignation of Professor Clement L. Smith, Mrs. Farlow, and Miss Longfellow were filled at the February meeting of the Associates by the election of Frederick Pickering Cabot (A.B. Harvard 1890), Mary Coes (A.M. Radcliffe 1897), and Frances Parkman (Mrs. Henry Parkman). At the same meeting Mrs. Mary Lowell Barton, Esther Fisher Hallowell (A.B. 1902), John Forbes Perkins (A.B. Harvard 1899), and James Hardy Ropes (A.B. Harvard 1889), were elected members of the Associates, each for the term of three years from February 26, 1906. In October, 1905, Caroline Louise Humphrey (A.B. 1898) was elected Alumnae Associate for the term of three years from 1905.

At the February meeting, Mr. Henry L. Higginson's resignation from the Associates was presented and reluctantly accepted. Another name has been stricken from the list of Associates. Professor James Mills Peirce was one of the earliest and most loyal supporters and advisers of the "Harvard Annex": it was a great honor to Radcliffe that he deemed it worthy of his friendship and counsel to the day of his death.

The sum of \$75,000 for "new endowment" for the Library, needed to secure Mr. Andrew Carnegie's gift of \$75,000 for a building, has been raised, and a Library adapted to the special needs of Radcliffe will soon be ours. The question of site was extremely important; the working needs and the architectural effect, what we should have to-day, and what we may require to-morrow, these points, each and all, demanded careful consideration and the advice of an expert. Through the kindness of Mr. Arthur T. Lyman, the College employed Mr. A. A. Shurtleff to study the grounds in the neighborhood of Fay House, the Greenleaf estate included, and to indicate the best site for the Library and every other possible site. In Mr. Shurtleff's opinion, the Library should complete the group of which Agassiz House is the centre and the Gymnasium the left wing; of this group the Library would be the right wing, and it should, in its general features, correspond to the Gymnasium, in accordance with the plan suggested by Mr. McKim when the Gymnasium was built. In mass and dimensions, the Gymnasium would lend itself admirably to a college library, where provision must be made for a large number of readers and a comparatively small number of books. For the books rarely needed, and only by the advanced student, Radcliffe will continue to depend, with a grateful sense of privilege, on the great treasure-house of the Harvard Library.

The plans have been entrusted to Winslow and Bigelow, of Boston. It is believed that the work can be executed without interfering in any way with the present Library, and it is expected that the building will be ready in time for the opening of the College year in September, 1907. It is hoped that the fine window in Agassiz House which was Mrs. Whitman's last work, and which is a memorial of her life and genius, may find a fitting place specially designed for it in the new Library.

To the majority of the Radcliffe students, past and present, the Library was the first need of the College. To some of them, however, who are active members of the Radcliffe Auxiliary, a second dormitory seemed the first necessity, and a year ago a Committee of the Auxiliary was appointed to consider the question of

dormitories. This Committee, consisting of Mr. Frederick P. Cabot, Mrs. Philip Cabot, and Miss Amy Lowell, brought before the Council, at its June meeting, an admirable report, accompanied by plans for a building, and by an extremely interesting scheme for "financing the building operation." Before any step to push the matter was taken, Mrs. David P. Kimball, the generous and constant friend of Radcliffe, offered to give the College a second hall of residence, and the scheme brought forward by the Auxiliary has been for the present postponed.

The new hall will stand on Shepard Street, on the site designated by Mr. Guy Lowell in the lay-out of the land. The plans have been entrusted to A. W. Longfellow, Jr., the architect of Bertram Hall and Agassiz House, and it is expected that the building will be ready for occupation in September, 1907. It will outwardly resemble Bertram Hall, Mrs. Kimball's first splendid gift, but it will accommodate a larger number of students, forty at least.

By the wish of the donor, and with the gracious permission of Mrs. Eliot, the hall will bear the name of Grace Hopkinson Eliot.

In June, an occasion of peculiar interest marked the presentation to Radcliffe of a Venetian fountain,—the gift of Mr. Henry L. Higginson "in happy memory of Josephine Shaw Lowell, the wife of Charles Russell Lowell."

The other gifts of the year have been \$550 through Miss Caroline Matthews from students interested in education, the income to be at the disposition of Professor Paul H. Hanus, of the Department of Education; \$250 from Mrs. Walter Channing and other friends, to defray the expense of a Course of Lectures on the Philosophy of the Kindergarten, given by Miss Laura Fisher.

The bequests have been: \$10,000 under the will of Helen G. Coburn (Mrs. George W. Coburn), an unrestricted bequest; \$10,000 under the will of Annie E. Bursley, subject to a life-interest, to establish a Fellowship in Modern Languages, to be known as "The Louisa Green Bursley Fellowship in Modern Languages"; under the will of Rebecca Greene (Mrs. Francis B. Greene), of Dartmouth, formerly of Boston, Radcliffe College is made one of the residuary legatees of her estate, and it is to receive $\frac{100}{800}$ (one hundred two hundred and sixtieths) of the residuary estate.

Radcliffe has purchased a small house and lot, 13 Appian Way, which is now in use as an office for the Superintendent. It has also come into possession of the two houses on Ash Street, which were part of the Greenleaf property, and on which an option until April, 1907, had been taken. The Treasurer was able to sell a piece of

property, unproductive and taxed, which had been left to Radcliffe by Miss Parker, and to take up the option on the Ash Street houses, which are both rented to advantage.

Agassiz House was opened for daily use in September, 1905, and has now completed its first year. It has fully and amply served the purposes for which it was given; it has done more than any one expected and in more ways than any one imagined. This is not the place for details of its service; one item will suffice. During the college year, September, 1905,—June, 1906, 24,425 luncheons were provided, at an average expense of 11½ cents each. It is true that the House adds to the running expenses of the College, but not so heavily as we had feared.

The new Library brings its endowment with it; the new Hall, properly managed, will be a source of income; for the other buildings which have been reckoned essential to the development of Radcliffe, a good building for academic purposes, for laboratories and for administration,—for these we can afford to wait. The prime need remains — a large fund for the improvement of the instruction. This is not the first time that the Dean has laid stress upon this vital need of the College. May it be the last!

AGNES IRWIN, *Dean.*

APPENDIX.

DEATHS.

[During the year beginning September 1, 1905.]

- DWIGHT MOSES CLAPP, Clinical Lecturer on Operative Dentistry. September 19, 1906.
JAMES MILLS PEIRCE, Perkins Professor of Astronomy and Mathematics. March 21, 1906.
NATHANIEL SOUTHGATE SHALER, Professor of Geology, and Dean of the Lawrence Scientific School. April 10, 1906.
-

RESIGNATIONS.

[To take effect September 1, 1906, unless otherwise stated.]

- GEORGE LORIMER BAKER, Assistant in Bacteriology. October 22, 1906.
WINTHROP BELLAMY, Assistant in Chemistry. May 14, 1906.
HENRY PICKERING BOWDITCH, George Higginson Professor of Physiology, to take effect at the end of the current academic year. April 30, 1906.
HENRY COOK BOYNTON, Instructor in Metallurgy and Metallography. September 24, 1906.
WALTER REMSEN BRINCKERHOFF, Instructor in Pathology, to take effect March 1, 1906. March 13, 1906.
ARTHUR HOUSTON CHIVERS, Austin Teaching Fellow in Botany. October 22, 1906.
ALLEN DANFORTH, Comptroller, to take effect March 1, 1906. November 13, 1905.
CHARLES HENRY DERBY, Proctor, to take effect March 1, 1906. March 13, 1906.
FREDERIC LOUIS FISCHER, Secretary of the Faculty of Law. October 22, 1906.
ORVILLE GISH FRANTZ, Proctor. February 26, 1906.
JAMES AUGUSTUS GEORGE, Member of the Board of Examination Proctors. May 28, 1906.
EDWARD HALE, Assistant Professor of Homiletics. March 13, 1906.
JOHN GALENTINE HALL, Assistant in Botany. October 22, 1906.
EDMUND HERSEY, Instructor in Farming and Superintendent of the Bussey Farm. March 26, 1906.
ARTHUR NORMAN HOLCOMBE, Assistant in Government. October 22, 1906.
SILAS WILDER HOWLAND, Assistant in Economics. October 22, 1906.

- THOMAS AUGUSTUS JAGGAR, Jr., Assistant Professor of Geology. June 28, 1906.
- FRANCIS WAYLAND JOHNSTON, Austin Teaching Fellow in Economics. June 28, 1906.
- HARRIE STUART VEDDER JONES, Instructor in English. September 24, 1906.
- JOHN SAMUEL KENTON, Assistant in English, to take effect March 1, 1906. June 11, 1906.
- ELBRIDGE DECOSMOS KING, Instructor in Mechanical Dentistry. September 24, 1906.
- ARTHUR BECKET LAMB, Instructor in Chemistry. November 1, 1906.
- ROBERT ADGER LAW, Instructor in English. September 24, 1906.
- FRANCIS CABOT LOWELL, Permanent Secretary of the Corporation, to take effect December 11, 1905. January 8, 1906.
- ALBERT MORTON LYTTHGOE, Assistant Professor of Egyptology. September 24, 1906.
- SYLVANUS GRISWOLD MORLEY, Instructor in Romance Languages. September 24, 1906.
- JAMES ATKINS NOYES, Editor of the Quinquennial Catalogue, to take effect October 28, 1905. September 28, 1905.
- ARTHUR SPERRY PEARSE, Member of the Board of Examination Proctors, to take effect March 1, 1906. March 13, 1906.
- JAMES MILLS PEIRCE, Perkins Professor of Astronomy and Mathematics, to take effect March 1, 1907. March 13, 1906.
- LINCOLN WARE RIDDLE, Member of the Board of Examination Proctors. May 28, 1906.
- LINCOLN WARE RIDDLE, Austin Teaching Fellow in Botany. October 8, 1906.
- ARTHUR WILLIAM RYDER, Instructor in Indic Philology and in German, to take effect January 1, 1906. December 11, 1905.
- STUART PRATT SHERMAN, Instructor in English. June 26, 1906.
- ARTHUR ASAHEL SHURTLEFF, Instructor in Landscape Architecture, to take effect April 23, 1906. December 27, 1905.
- STANLEY ARTHUR STARRATT, Austin Teaching Fellow in Geology, to take effect November 18, 1905. November 27, 1905.
- WILFRED HARLOW STARRATT, Instructor in Operative Dentistry. September 24, 1906.
- VILHJÁLMUR STEFÁNSSON, Member of the Board of Examination Proctors. May 28, 1906.
- ELMER EDGAR STOLL, Instructor in English. September 24, 1906.
- GEORGE NICOLAS TERZIEFF, Assistant in Chemistry, to take effect March 26, 1906. March 26, 1906.
- HENRY SMITH THOMPSON, Secretary for Appointments, to take effect July 1, 1906. September 24, 1906.
- ALFRED MARSTON TOZZER, Member of the Board of Examination Proctors. May 28, 1906.
- ERNEST DE WOLFE WALES, Assistant in Otology. June 26, 1906.
- GEORGE LINCOLN WALTON, Clinical Instructor in Diseases of the Nervous System. June 26, 1906.
- JENS IVERSON WESTENGARD, Assistant Professor of Law, to take effect March 1, 1906. March 13, 1906.
- HOMER EDWARDS WOODBRIDGE, Instructor in English. September 24, 1906.

APPOINTMENTS.

FACULTY OF ARTS AND SCIENCES.

[Without limit of time, or for more than one year.]

- COMFORT AVERY ADAMS, Professor of Electrical Engineering from September 1, 1906. January 29, 1906.
- WILLIAM ELWOOD BYERLY, Perkins Professor of Mathematics from September 1, 1906. May 14, 1906.
- AUSTIN CARY, Assistant Professor of Forestry for five years from September 1, 1905. October 2, 1905.
- GEORGE HENRY CHASE, Assistant Professor of Classical Archaeology for five years from September 1, 1906. January 29, 1906.
- FREDERICK SHEPHERD CONVERSE, Assistant Professor of Music for five years from September 1, 1905. September 26, 1905.
- ROLAND BURRAGE DIXON, Assistant Professor of Anthropology for five years from September 1, 1906. April 10, 1906.
- MERRITT LYNDON FERNALD, Assistant Professor of Botany for five years from September 1, 1905. October 9, 1905.
- RICHARD THORNTON FISHER, Assistant Professor of Forestry for five years from September 1, 1905. October 2, 1905.
- KUNO FRANCKE, Professor of the History of German Culture from September 1, 1905. January 29, 1906.
- EDWIN FRANCIS GAY, Professor of Economics from September 1, 1906. April 30, 1906.
- EDWARD LOCKE GOOKIN, Assistant in the Library from September 1, 1905. November 13, 1905.
- CHESTER NOYES GREENOUGH, Instructor in English from September 1, 1906. May 7, 1906.
- BYRON SATTERLEE HURLBUT, Professor of English from September 1, 1906. April 10, 1906.
- DOUGLAS WILSON JOHNSON, Assistant Professor of Physiography for five years from September 1, 1906. May 14, 1906.
- LEWIS JEROME JOHNSON, Professor of Civil Engineering from September 1, 1906. March 26, 1906.
- JAMES LEE LOVE, Assistant Professor of Mathematics for five years from September 1, 1906. April 30, 1906.
- ALBERT MORTON LYTHGOE, Assistant Professor of Egyptology for five years from September 1, 1905. November 13, 1905.
- WILLIAM BENNETT MUNRO, Assistant Professor of Government for five years from September 1, 1906. March 26, 1906.
- WILLIAM ALLAN NEILSON, Professor of English from September 1, 1906. November 27, 1905.
- ARTHUR EDWIN NORTON, Instructor in Mechanical Drawing and Descriptive Geometry from September 1, 1906. April 30, 1906.
- GEORGE HOWARD PARKER, Professor of Zoölogy from September 1, 1906. May 14, 1906.
- BLISS PERRY, Professor of English Literature from March 1, 1907. January 29, 1906.

- HERBERT WILBUR RAND, Instructor in Zoölogy from September 1, 1906. April 10, 1906.
- CHARLES ALBERT READ, Assistant in the Library from September 1, 1905. November 13, 1905.
- GEORGE ANDREW REIBNER, Assistant Professor of Semitic Archaeology for five years from September 1, 1905. November 13, 1905.
- FRED NORRIS ROBINSON, Professor of English from September 1, 1906. February 12, 1906.
- ALBERT SAUVEUR, Professor of Metallurgy and Metallography from September 1, 1906. April 10, 1906.
- WILLIAM HENRY SCHOFIELD, Professor of Comparative Literature from September 1, 1906. February 12, 1906.
- JAMES KELSEY WHITTEMORE, Assistant Professor of Mathematics for five years from September 1, 1906. April 30, 1906.
- LEO WIENER, Assistant Professor of Slavic Languages and Literatures for five years from September 1, 1906. April 10, 1906.
- JAY BACKUS WOODWORTH, Assistant Professor of Geology for five years from September 1, 1906. April 10, 1906.
- ROBERT MEARNS YERKES, Instructor in Psychology from September 1, 1905. June 5, 1905. Title changed to Instructor in Comparative Psychology, September 26, 1905.

[For 1905-06.]

- WILLIAM MORTON BARROWS, Austin Teaching Fellow in Geology from November 18, 1905, for the remainder of the current academic year. November 27, 1905.
- JOSEPH TORREY BISHOP, Assistant in History. October 9, 1905.
- JOHN HAMILTON BLAIR, Assistant in History. October 9, 1905.
- ARTHUR CLARENCE BOYLSTON, Assistant in Chemistry. October 9, 1905.
- CARL MILTON BREWSTER, Assistant in Chemistry. October 9, 1905.
- LAURIE LORNE BURGESS, Assistant in Chemistry for the remainder of the current academic year. March 26, 1906.
- DANIEL ALLEN CLARKE, Instructor in Forest Botany for the first half-year. October 2, 1905.
- MORRIS RAPHAEL COHEN, Assistant in Philosophy. October 9, 1905.
- SIDNEY CURTIS, Assistant in English. October 30, 1905.
- HARVEY NATHANIEL DAVIS, Instructor in Mathematics. October 9, 1905.
- HAROLD SIMPSON DEMING, Instructor in Public Speaking. September 26, 1905.
- WILLIAM MORTON DEY, Austin Teaching Fellow in Romance Languages. October 2, 1905.
- HARRY NELSON EATON, Assistant in Geology. October 2, 1905.
- EMERSON DAVID FITE, Austin Teaching Fellow in Government. October 9, 1905.
- GEORGE SHANNON FORBES, Lecturer on Physical Chemistry. October 2, 1905.
- EDMUND CARL FROEHLICH, Instructor in Mathematics. October 9, 1905.
- CHARLES EDMUND FRYER, Assistant in History. October 9, 1905.
- JOHN GLANVILLE GILL, Instructor in Romance Languages. October 2, 1905.
- JULIUS GOEBEL, Lecturer on Germanic Philology. September 26, 1905.
- ARTHUR BROOKS GREEN, Assistant in Engineering. October 30, 1905.

- WILLIAM VINCENT GREEN, Assistant in Chemistry. October 9, 1905.
ERNST HERMANN PAUL GROSSMANN, Instructor in German. October 30, 1905.
BINNEY GUNNISON, Instructor in Public Speaking. October 2, 1905.
RICHMOND LAURIN HAWKINS, Instructor in Romance Languages. October 2, 1905.
RALPH CHIPMAN HAWLEY, Instructor in Forestry. October 2, 1905.
HENRY HARRISON HAYNES, Instructor in Semitic Languages. September 26, 1905.
FRANK WILSON CHENEY HERSEY, Instructor in English. October 30, 1905.
LEWIS DANA HILL, Assistant in Physics. October 9, 1905.
JOHN L HOGG, Instructor in Mathematics. October 30, 1905.
JOHN L HOGG, Assistant in Astronomy. October 30, 1905.
WALTER CHAPIN HOLMES, Assistant in Chemistry. October 9, 1905.
ALEXANDER EDWARD HOYLE, Assistant in Architecture. September 26, 1905.
HENRY VINCENT HUBBARD, Instructor in Landscape Architecture from April 23, 1906, for the remainder of the current academic year. January 29, 1906.
JOHN GEORGE JACK, Instructor in Forest Botany for the second half-year. October 2, 1905.
RICHARD FAY JACKSON, Assistant in Chemistry. October 9, 1905.
RALPH REVERE KENT, Assistant in Geology. October 9, 1905.
RAYMOND WARREN KENT, Assistant in Chemistry. November 6, 1905.
BURRETT SAMUEL LACY, Assistant in Chemistry. October 9, 1905.
CHESTER ARTHUR LEGG, Assistant in Economics. September 26, 1905.
CHESTER ARTHUR LEGG, Assistant in History. October 9, 1905.
RAY MADDING McCONNELL, Assistant in Philosophy. October 30, 1905.
CHARLES STURTEVANT MOORE, Assistant in Education. October 30, 1905.
EDWARD MUELLER, Assistant in Chemistry. October 9, 1905.
FRANCIS EMMET NEAGLE, Assistant in Government. October 9, 1905.
FRIEDRICH WILHELM OSTWALD, Visiting Professor of Physical Chemistry for the first half-year. September 26, 1905.
FRIEDRICH WILHELM OSTWALD, Ingersoll Lecturer on the Immortality of Man. October 30, 1905.
HAROLD OTIS, Assistant in Economics. October 9, 1905.
EDGAR OSCAR PARKER, Assistant in Drawing. November 13, 1905.
CHARLES JACKSON PAYNE, Assistant in Astronomy. October 30, 1905.
CHANDLER RATHFON POST, Assistant in English. October 2, 1905.
WILLIAM HYDE PRICE, Assistant in Economics. October 30, 1905.
CHARLES FREEMAN ROWLEY, Assistant in Economics. October 9, 1905.
EDWIN JAMES SAUNDERS, Assistant in Meteorology and Physiography. October 2, 1905.
CARL LUDWIG SCHRADER, Instructor in Gymnastics. September 26, 1905.
EDGAR RAYMOND SHEPARD, Assistant in Physics. October 9, 1905.
ALEXANDER GUY HOLBORN SPIERS, Austin Teaching Fellow in Romance Languages. October 2, 1905.
ARTHUR STAEBLER, Visiting Assistant in Chemistry. September 26, 1905.
ALBERT MOREY STURTEVANT, Instructor in German. October 30, 1905.
GEORGE NICOLAS TERZIEFF, Assistant in Chemistry. October 9, 1905.
THOMAS HEAD THOMAS, Assistant in Fine Arts. October 30, 1905.

- ROLAND GREENE USHER, Assistant in History. October 9, 1905.
WILLIAM HULTZ WALKER, Lecturer on Industrial Chemistry. November 13, 1905.
SAMUEL ALFRED WELLDON, Assistant in English. October 30, 1905.
ROBERT MAXIMILIAN OTTOMAR WERNAER, Assistant in German. October 30, 1905.
LAURENCE HAINES WHITNEY, Assistant in Chemistry. October 9, 1905.
JOAQUIN ENRIQUE ZANETTI, Assistant in Chemistry. October 9, 1905.

[For 1906-07.]

- JOHN MEAD ADAMS, Assistant in Physics. April 30, 1906.
HAROLD FRED ALBEE, Assistant in Mechanical Drawing. April 30, 1906.
LOUIS ALLARD, Instructor in French. April 10, 1906.
OAKES AMES, Instructor in Botany. April 30, 1906.
LEONARD ALEXANDER ANDRUS, Assistant in Hydraulics. May 7, 1906.
NEWTON SAMUEL BACON, Assistant in Hygiene. April 10, 1906.
ARTHUR MANGUN BANTA, Austin Teaching Fellow in Zoölogy. April 10, 1906.
HENRI BAULIG, Instructor in French. April 10, 1906.
CORNELIUS BEARD, Assistant in Mechanical Drawing. May 7, 1906.
WINTHROP BELLAMY, Assistant in Chemistry. April 10, 1906.
CHARLES SCOTT BERRY, Assistant in Philosophy. June 11, 1906.
ALBERT WILHELM BOESCHE, Instructor in German. May 28, 1906.
ARTHUR CLARENCE BOYLSTON, Austin Teaching Fellow in Chemistry. April 10, 1906.
HENRY COOK BOYNTON, Instructor in Metallurgy and Metallography. April 30, 1906.
FLETCHER BRIGGS, Instructor in German. May 28, 1906.
ALPHONSE BRUN, Instructor in French. April 10, 1906.
MORLEY ALBERT CALDWELL, Assistant in Philosophy. June 11, 1906.
BURTON HOWARD CAMP, Instructor in Mechanics. April 30, 1906.
PAUL WHITTIER CARLETON, Assistant in Chemistry. May 14, 1906.
EARNEST CARY, Instructor in Greek. April 10, 1906.
WILLIAM RICHARD CASTLE, Jr., Instructor in English. June 11, 1906.
FRED WAYNE CATLETT, Assistant in Government. April 30, 1906.
HAROLD CANNING CHAPIN, Assistant in Chemistry. April 10, 1906.
ARTHUR HOUSTON CHIVERS, Austin Teaching Fellow in Botany. April 30, 1906.
MINTIN ASBURY CHRYSLER, Instructor and Assistant in Botany. April 30, 1906.
LATHAM CLARKE, Instructor in Chemistry. April 10, 1906.
WILLIAM MORSE COLE, Instructor in the Principles of Accounting. April 10, 1906.
WILLIAM ARNOLD COLWELL, Instructor in German. May 28, 1906.
EDGAR DAVIDSON CONGDON, Austin Teaching Fellow in Zoölogy. April 10, 1906.
CHARLES ALLERTON COOLIDGE, Lecturer on Architectural Design. April 10, 1906.
SHIRLEY ROBBINS CROSSE, Assistant in Electrical Engineering. May 7, 1906.
SIDNEY CURTIS, Assistant in English. June 11, 1906.

- STUART DAGGETT, Instructor in Economics. April 10, 1906.
LEONARD DARWIN, Lecturer on Municipal Ownership and Public Service Industries. June 11, 1906.
HARVEY NATHANIEL DAVIS, Instructor in Mathematics and in Physics. April 30, 1906.
FRANK MILES DAY, Lecturer on Architectural Design. April 10, 1906.
ARTHUR STONE DEWING, Assistant in Philosophy. June 11, 1906.
WILLIAM BELL DINSMOOR, Assistant in Fine Arts. April 10, 1906.
CHARLES FLETCHER DOLE, Ingersoll Lecturer on the Immortality of Man. May 28, 1906.
HORATIO WILLIS DRESSER, Assistant in Philosophy. June 11, 1906.
WALTER CHALONER DUFFEE, Austin Teaching Fellow in Engineering. April 30, 1906.
JULIUS WOOSTER EGGLESTON, Assistant in Geology. April 10, 1906.
LOUVILLE EUGENE EMERSON, Assistant in Philosophy. June 11, 1906.
CALVIN OLIN ESTERLY, Assistant in Zoölogy. April 30, 1906.
WILLIAM CURTIS FARABEE, Instructor in Anthropology. April 10, 1906.
FRANK ALBERT FETTER, Lecturer on Economics. April 30, 1906.
JAMES ALFRED FIELD, Instructor in Economics. April 10, 1906.
FRANCIS GLEASON FITZPATRICK, Assistant in Fine Arts. April 10, 1906.
HARRY PHIDIAS FORTÉ, Austin Teaching Fellow in Applied Mechanics and Hydraulics. April 30, 1906.
HARRY LOUIS FREVERT, Austin Teaching Fellow in Chemistry. April 10, 1906.
BENJAMIN APTHORP GOULD FULLER, Assistant in Philosophy. June 11, 1906.
HAROLD DE WOLF FULLER, Instructor in Comparative Literature. April 30, 1906.
ANDREW GARBUTT, Instructor in Modelling. April 10, 1906.
ALDEN PINUS GILSON, Assistant in Mechanical Engineering. April 30, 1906.
JULIUS GOEBEL, Lecturer on Germanic Philology. May 28, 1906.
HOWARD LEVI GRAY, Austin Teaching Fellow in History. April 30, 1906.
JOHN GALENTINE HALL, Assistant in Botany. April 30, 1906.
THOMAS HALL, Instructor in English. May 7, 1906.
LYMAN SAWIN HAPGOOD, Assistant in Hygiene. April 10, 1906.
RICHMOND LAURIN HAWKINS, Instructor in Romance Languages. April 10, 1906.
HENRY HARRISON HAYNES, Instructor in Semitic Languages. April 30, 1906.
WILLIAM CLIFFORD HEILMAN, Instructor in Music. April 10, 1906.
LAWRENCE JOSEPH HENDERSON, Instructor in Biological Chemistry. April 10, 1906.
FRANK WILSON CHENEY HERSEY, Instructor in English. June 11, 1906.
LEWIS DANA HILL, Assistant in Physics. April 30, 1906.
ARTHUR NORMAN HOLCOMBE, Assistant in Government. April 30, 1906.
SILAS WILDER HOWLAND, Assistant in Economics. April 10, 1906.
HENRY VINCENT HUBBARD, Instructor in Landscape Architecture. April 10, 1906.
ARTHUR MERLE HURLIN, Assistant in Music. April 10, 1906.
CHARLES PHILLIPS HUSE, Assistant in Economics. April 10, 1906.
PERCY ADAMS HUTCHISON, Instructor in English. June 11, 1906.
JOHN GEORGE JACK, Instructor in Forest Botany. June 26, 1906.

- CARL NEWELL JACKSON, Instructor in Greek. April 10, 1906.
DOUGLAS WILSON JOHNSON, Lecturer on Physiography. April 10, 1906.
FRANCIS WAYLAND JOHNSTON, Austin Teaching Fellow in Economics. April 10, 1906.
ROBERT MATTESON JOHNSTON, Lecturer on History. May 7, 1906.
GRINNELL JONES, Austin Teaching Fellow in Chemistry. May 14, 1906.
HARRIE STUART VEDDER JONES, Instructor in English. June 11, 1906.
FRED ROBERT JOUETT, Assistant in Hygiene. April 10, 1906.
HERMAN BRUNSWICK KIPPER, Austin Teaching Fellow in Chemistry. April 10, 1906.
EUGEN KÜHNEMANN, Visiting Professor of German Literature. March 26, 1906.
ARTHUR BECKET LAMB, Instructor in Chemistry. April 10, 1906.
ROBERT ADGER LAW, Instructor in English. June 11, 1906.
CHESTER ARTHUR LEGG, Assistant in Economics. April 10, 1906.
CHESTER BROOKS LEWIS, Assistant in Descriptive Geometry. April 30, 1906.
GEORGE RANDALL LEWIS, Austin Teaching Fellow in Economics. April 10, 1906.
FREDERICK WILLIAM CHARLES LIEDER, Instructor in German. May 28, 1906.
GEORGE LUTHER LINCOLN, Austin Teaching Fellow in Romance Languages. April 10, 1906.
WILLIAM EDWARD LUNT, Assistant in Government. April 30, 1906.
RAY MADDING MCCONNELL, Assistant in Social Ethics. April 10, 1906.
GEORGE ALBERT MCKAY, Assistant in Mechanical Drawing. April 30, 1906.
BENTON MACKEY, Instructor in Forestry. June 26, 1906.
GEORGE ROGERS MANSFIELD, Instructor in Geology. June 26, 1906.
EDWARD RUSSELL MARKHAM, Instructor in Shopwork. April 30, 1906.
SELDEN OSGOOD MARTIN, Austin Teaching Fellow in Economics. April 10, 1906.
JOSEPH BENSON MARVIN, Austin Teaching Fellow in Mining and Metallurgy. April 30, 1906.
FRANK RICHARDSON MASON, Austin Teaching Fellow in Economics. April 10, 1906.
HERBERT EUGENE MERWIN, Assistant in Physiography. June 11, 1906.
JARED SPARKS MOORE, Assistant in Philosophy. June 11, 1906.
SYLVANUS GRISWOLD MORLEY, Instructor in Romance Languages. April 10, 1906.
WILLIAM ALFRED MORRIS, Assistant in History. April 30, 1906.
ARTHUR HOLMES MORSE, Instructor in Mechanical Engineering. April 30, 1906.
MARTIN MOWER, Instructor in Fine Arts. April 10, 1906.
HERMAN DUDLEY MURPHY, Instructor in Drawing from the Life. April 10, 1906.
FRANCIS EMMET NEAGLE, Assistant in Government. April 30, 1906.
CHARLES ELIOT NICHOLS, Assistant in Mechanics. April 30, 1906.
CHARLES READ NUTTER, Instructor in English. June 11, 1906.
FREDERIC AUSTIN OGG, Austin Teaching Fellow in History. April 30, 1906.
EDMUND MORLEY PARKER, Lecturer on Comparative Administration. April 30, 1906.
EDGAR OSCAR PARKER, Assistant in Drawing. April 10, 1906.

- CHARLES PEABODY, Instructor in European Archaeology. April 10, 1906.
ARTHUR STANLEY PEASE, Instructor in Greek and Latin. April 10, 1906.
ARTHUR POPE, Instructor in Fine Arts. April 10, 1906.
CHANDLER RATHFON POST, Instructor in English. June 11, 1906.
CYRUS GUERNSEY PRINGLE, Botanical Collector. June 26, 1906.
PAUL HECTOR PROVANDIE, Assistant in Hygiene. April 10, 1906.
CONYERS READ, Assistant in History. April 30, 1906.
SIDNEY ARMOR REEVE, Lecturer on Mechanical Engineering. May 7, 1906.
WILLIAM CHAUNCEY RICE, Assistant in Government. April 30, 1906.
RALPH WEBSTER RICHARDS, Assistant in Mineralogy. April 10, 1906.
LINCOLN WARE RIDDLE, Austin Teaching Fellow in Botany. April 30, 1906.
DAVID CAMP ROGERS, Instructor in Social Ethics. April 10, 1906.
CHARLES FREEMAN ROWLEY, Assistant in Economics. April 10, 1906.
ARTHUR TRUMAN SAFFORD, Instructor in Hydraulics. April 30, 1906.
EUGENE MITCHELL SAWYER, Austin Teaching Fellow in Mining and Metallurgy. April 30, 1906.
FREDERIC HAYWARD SAWYER, Assistant in Geology. April 10, 1906.
CARL LUDWIG SCHRADER, Instructor in Gymnastics. April 30, 1906.
SCHUYLER B SERVISS, Assistant in Physics. April 30, 1906.
ARTHUR BLISS SEYMOUR, Assistant in the Cryptogamic Herbarium. April 30, 1906.
ELMER IRWIN SHEPARD, Instructor in Mathematics. April 30, 1906.
STUART PRATT SHERMAN, Instructor in English. June 11, 1906.
HAROLD VINCENT SKENE, Assistant in Architecture. April 10, 1906.
ALEXANDER GUY HOLBORN SPIERS, Austin Teaching Fellow in Romance Languages. April 10, 1906.
HERBERT JOSEPH SPINDEN, Assistant in Anthropology. April 10, 1906.
CHARLES MINER STEARNS, Instructor in English. June 11, 1906.
MORTON COLLINS STEWART, Austin Teaching Fellow in German. May 28, 1906.
ELMER EDGAR STOLL, Instructor in English. June 11, 1906.
HARRY WILTON STURGES, Assistant in Electrical Engineering. May 7, 1906.
RICHARD CLIPSTON STURGIS, Lecturer on Architectural Design. April 10, 1906.
ALBERT MOREY STURTEVANT, Instructor in German. May 28, 1906.
ALFRED MARSTON TOZZER, Instructor in Central American Archaeology. April 10, 1906.
WILLIAM HULTZ WALKER, Lecturer on Industrial Chemistry. April 30, 1906.
HAROLD BROADFIELD WARREN, Instructor in Freehand Drawing. April 10, 1906.
KENNETH GRANT TREMAYNE WEBSTER, Instructor in English. May 7, 1906.
EDMUND MARCH WHEELWRIGHT, Lecturer on Architectural Design. April 10, 1906.
EDWIN ELLIS WHITE, Assistant in Mining and Metallurgy. April 30, 1906.
ERNEST HATCH WILKINS, Instructor in Italian. April 30, 1906.
HOMER EDWARDS WOODBRIDGE, Instructor in English. June 11, 1906.

MEMBERS OF THE ADMINISTRATIVE BOARD OF HARVARD COLLEGE.

[September 26, 1905.]

JOHN HAYS GARDINER.	THEODORE LYMAN.
CHARLES BURTON GULICK.	CHARLES POMEROY PARKER.
JOHN GODDARD HART.	ROBERT DECOURCY WARD.
BYRON SATTERLEE HURLBUT, <i>Dean</i> .	EDGAR HUIDEKOPER WELLS.
ROBERT WHEELER WILLSON.	

RESIDENT EXECUTIVE BOARD.

[June 26, 1906.]

CHARLES WILLIAM ELIOT, <i>President</i> .	WALTER SAFFORD BURKE.
HOWARD LANE BLACKWELL.	JEROME DAVIS GREENE, <i>Secretary</i> .
CHARLES FRANK MASON.	EDGAR HUIDEKOPER WELLS.
CHARLES MINER STEARNS.	

MEMBERS OF THE ADMINISTRATIVE BOARD OF THE LAWRENCE SCIENTIFIC SCHOOL.

[For 1905-06.]

SEPTEMBER 26, 1905.

WILLIAM ERNEST CASTLE.	ARTHUR ORLO NORTON.
EUGENE ABRAHAM DARLING.	GEORGE WASHINGTON PIERCE.
JOHN GODDARD HART.	CHARLES ROBERT SANGER.
IRA NELSON HOLLIS.	NATHANIEL SOUTHGATE SHALER,
EDWARD VERMILYE HUNTINGTON.	<i>Dean</i> .
EDWARD CHARLES JEFFREY.	HENRY LLOYD SMYTH.
ARTHUR EDWIN KENNELLY.	HERBERT LANGFORD WARREN.
JAMES LEE LOVE.	CHARLES HENRY WHITE.

[For 1906-07.]

JUNE 26, 1906.

WILLIAM ERNEST CASTLE.	FRANK LOWELL KENNEDY.
RICHARD THORNTON FISHER.	ARTHUR EDWIN KENNELLY.
IRA NELSON HOLLIS.	ARTHUR ORLO NORTON.
EDWARD VERMILYE HUNTINGTON.	HERBERT LANGFORD WARREN.
CHARLES HENRY WHITE.	

MEMBERS OF THE ADMINISTRATIVE BOARD OF THE GRADUATE SCHOOL OF ARTS AND SCIENCES.

[September 26, 1905.]

MAXIME BÔCHER.	GEORGE FOOT MOORE.
THOMAS NIXON CARVER.	HUGO MÜNSTERBERG.
WILLIAM MORRIS DAVIS.	WALLACE CLEMENT SABINE.
GEORGE LYMAN KITTREDGE.	HERBERT WEIR SMYTH.
EDWARD LAURENS MARK.	JOHN HENRY WRIGHT, <i>Dean</i> .

PROCTORS.

[For 1905-06.]

- HERBERT SPENCER ALLEN. October 2, 1905.
ADELBERT AMES. October 2, 1905.
ARTHUR ATWOOD BALLANTINE. October 2, 1905.
HOWARD LANE BLACKWELL. October 2, 1905.
HERMAN LARUE BROWN. October 2, 1905.
HARVEY NATHANIEL DAVIS. October 2, 1905.
AUGUSTINE DERBY. October 2, 1905.
CHARLES HENRY DERBY. October 2, 1905.
LOUVILLE EUGENE EMERSON. October 30, 1905.
ROGER ERNST. October 2, 1905.
WHITCOMB FIELD. October 2, 1905.
HERMAN ARTHUR FISCHER. October 2, 1905.
FREDERICK MONTAGUE FOSTER. January 1, 1906, for the remainder of the
current academic year. January 8, 1906.
ORVILLE GISH FRANTZ. October 2, 1905.
JOHN SATWARD GALBRAITH. October 2, 1905.
DONALD GREGG. October 2, 1905.
ROGER CASTLE GRIFFIN. October 2, 1905.
RICHARD MOTT GUMMERE. October 2, 1905.
FITCH HARRISON HASKELL. October 2, 1905.
SILAS WILDER HOWLAND. October 2, 1905.
RICHARD INGLIS. October 2, 1905.
MALCOLM HYDE IVY. October 2, 1905.
JOHN FRANCIS JENNINGS. October 2, 1905.
HAROLD PENDEXTER JOHNSON. November 27, 1905.
ROBERT PEEBLES KERNAN. October 2, 1905.
ROSS WATT LYNN. October 2, 1905.
ROBERT MAGRANE, for the remainder of the current academic year. Feb-
ruary 26, 1906.
HORACE MANN. October 2, 1905.
CLEMENT ROSS DUNCAN MEIER. October 2, 1905.
FRANCIS JOSEPH O'CONNOR. October 2, 1905.
PETER BUTLER OLNEY, Jr. October 2, 1905.
HAROLD OTIS. October 2, 1905.
RAYMOND HANSEN OVESON. October 2, 1905.
JAMES HORACE PATTEN. October 2, 1905.
CHANDLER RATHFON POST. October 30, 1905.
CONYERS READ. October 2, 1905.
EUGENE MITCHELL SAWYER. October 2, 1905.
JOHN ELLIS SEDMAN. October 2, 1905.
KENDALL KERFOOT SMITH. October 2, 1905.
ALEXANDER GUY HOLBORN SPIERS. October 2, 1905.
VILHJÁLMUR STEFÁNSSON. October 2, 1905.
HOWARD STOCKTON. October 2, 1905.
EDWARD AUGUSTINE TAFT. October 2, 1905.
ROBERT PALFREY UTTER. October 2, 1905.

HARRISON BRIGGS WEBSTER. October 2, 1905.

SAMUEL ALFRED WELLDON. October 2, 1905.

KENNARD WINBOR. October 2, 1905.

KARL YOUNG. October 2, 1905.

[For 1906-07.]

ABBOT PETERSON, Proctor of Divinity Hall. June 11, 1906.

MEMBERS OF THE BOARD OF EXAMINATION PROCTORS.

OCTOBER 30, 1905.

FREDERICK ARTHUR ALDEN.

JAMES ROBERT BARCLAY.

WINTHROP BELLAMY.

FLETCHER BRIGGS.

WILLIAM ARNOLD COLWELL.

STUART DAGGETT.

EMERSON DAVID FITE.

CHARLES EDMUND FRYER.

JAMES AUGUSTUS GEORGE.

LUCIUS DWIGHT GRANGER.

HOWARD LEVI GRAY.

ROGER CASTLE GRIFFIN.

RICHMOND LAURIN HAWKINS.

HENRY CRAIG JONES.

CHESTER ARTHUR LEGG.

FREDERICK WILLIAM CHARLES
LIEDER.

JOSEPH ABRAHAM LONG.

NORMAN SHAW MCKENDRICK.

ARTHUR PATCH MCKINLAY.

GEORGE ROGERS MANSFIELD.

SELDEN OSGOOD MARTIN.

CHARLES READ NUTTER.

ARTHUR SPERRY PEARSE.

LINCOLN WARE RIDDLE.

SCHUYLER B SERVISS.

VILHJÁLMUR STEFÁNSSON.

ALFRED MARSTON TOZZER.

ROLAND GREENE USHER.

ARTHUR FISHER WHITEM.

CHESTER WHITNEY WRIGHT.

DIVINITY SCHOOL.

[For 1906-07.]

JOHN WINTHROP PLATNER, Lecturer on Ecclesiastical History. May 7, 1906.

LAW SCHOOL.

[For 1905-06.]

CHARLES FREDERICK DUTCH, Instructor in Admiralty for the second half-year. January 29, 1906.

SAMUEL HUDSON HOLLIS, Instructor in Property for the second half-year. January 29, 1906.

CHARLES JAMES HUGHES, Jr., Lecturer on the Law of Mining and Irrigation. November 6, 1905.

[For 1906-07.]

ALLAN REUBEN CAMPBELL, Lecturer on New York Practice. May 14, 1906.

PAUL VINOGRADOFF, Lecturer on Comparative Ancient Law. June 11, 1906.

MEDICAL SCHOOL.

[Without limit of time, or for more than one year.]

- CARL LUCAS ALSBERG, Instructor in Biological Chemistry for three years from September 1, 1906. June 26, 1906.
- JOHN BAPST BLAKE, Instructor in Surgery for three years from September 1, 1906. June 26, 1906.
- JOHN LEWIS BREMER, Demonstrator of Histology for three years from September 1, 1906. May 14, 1906.
- RICHARD CLARKE CABOT, Instructor in Clinical Medicine for three years from September 1, 1906. June 26, 1906.
- ALGERNON COOLIDGE, Jr., Assistant Professor of Laryngology for five years from September 1, 1906. May 14, 1906.
- ELBRIDGE GERRY CUTLER, Instructor in the Theory and Practice of Physic for three years from September 1, 1906. June 26, 1906.
- CHARLES HARRINGTON, Professor of Hygiene from September 1, 1906. February 12, 1906.
- HENRY JACKSON, Instructor in Clinical Medicine for three years from September 1, 1906. June 26, 1906.
- ELLIOTT PROCTOR JOSLIN, Instructor in the Theory and Practice of Physic for three years from September 1, 1906. June 26, 1906.
- FREDERIC THOMAS LEWIS, Assistant Professor of Embryology for five years from September 1, 1906. May 14, 1906.
- HOWARD AUGUSTUS LOTHROP, Instructor in Surgery for three years from September 1, 1906. June 26, 1906.
- CHARLES SEDGWICK MINOT, James Stillman Professor of Comparative Anatomy from September 1, 1905. January 8, 1906.
- JOHN LOVETT MORSE, Assistant Professor of Pediatrics for five years from September 1, 1906. May 7, 1906.
- JAMES GREGORY MUMFORD, Instructor in Surgery for three years from September 1, 1906. June 26, 1906.
- CHARLES ALLEN PORTER, Instructor in Surgery for three years from September 1, 1906. June 26, 1906.
- GEORGE GRAY SEARS, Assistant Professor of Clinical Medicine for five years from September 1, 1906. May 7, 1906.
- ELMER ERNEST SOUTHARD, Assistant Professor of Neuropathology for five years from September 1, 1906. May 7, 1906.
- EDWARD WYLLYS TAYLOR, Instructor in Neurology for three years from September 1, 1906. June 26, 1906.
- HERMAN FRANK VICKERY, Instructor in Clinical Medicine for three years from September 1, 1906. June 26, 1906.
- JAMES HOMER WRIGHT, Instructor in Pathology for three years from September 1, 1906. June 26, 1906.

[For 1905-06.]

- HORACE BINNEY, Assistant in Anatomy. October 9, 1905.
- WILLIAM LELAND HOLT, Austin Teaching Fellow in Comparative Pathology. October 9, 1905.
- HARRY CHAMBERLAIN LOW, Assistant in Pathology. October 9, 1905.

GEORGE BURGESS MAGRATH, Assistant in Hygiene. December 11, 1905.
ALEXANDER ROCKE ROBERTSON, Assistant in Pathology from April 1, 1906,
for the remainder of the current academic year. April 10, 1906.
FRED WILBUR THYNG, Austin Teaching Fellow in Histology and Embry-
ology. October 9, 1905.
ERNEST EDWARD TYZZER, Assistant in Pathology. December 11, 1905.
GEORGE LOUIS VOGEL, Assistant in Laryngology from March 1, 1906, for the
remainder of the current academic year. March 13, 1906.
SIMEON BURT WOLBACH, Assistant in Pathology. October 9, 1905.
SIMEON BURT WOLBACH, Instructor in Pathology from March 1, 1906, for
the remainder of the current academic year. April 10, 1906.
ARTHUR MORTON WORTHINGTON, Assistant in Bacteriology. October 9, 1905.

[For 1906-07.]

JOHN AUER, Instructor in Physiology. June 28, 1906.
GEORGE SHERWIN CLARKE BADGER, Assistant in the Theory and Practice of
Physic. June 11, 1906.
GEORGE LORIMER BAKER, Assistant in Bacteriology. June 11, 1906.
FRANKLIN GREENE BALCH, Assistant in Surgery. June 11, 1906.
JOHN WASHBURN BARTOL, Assistant in Clinical Medicine. June 11, 1906.
HORACE BINNEY, Assistant in Anatomy. June 11, 1906.
OTIS FISHER BLACK, Assistant in Biological Chemistry. June 11, 1906.
ELLIOTT GRAY BRACKETT, Instructor in Orthopedics. June 11, 1906.
GEORGE WASHINGTON WALES BREWSTER, Assistant in Surgery. June 11,
1906.
FREDERICK STANFORD BURNS, Assistant in Dermatology. June 11, 1906.
CHARLES SHOREY BUTLER, Assistant in Anatomy. June 11, 1906.
DAVID CHEEVER, Assistant in Anatomy. June 11, 1906.
HENRY ASBURY CHRISTIAN, Instructor in the Theory and Practice of Physic.
June 11, 1906.
EDMUND WRIGHT CLAP, Assistant in Ophthalmology. June 11, 1906.
JOSEPH PAYSON CLARK, Assistant in Laryngology. June 11, 1906.
FREDERIC CODMAN COBB, Instructor in Laryngology. June 11, 1906.
ERNEST AMORY CODMAN, Assistant in Surgery. June 11, 1906.
ROCKWELL AUGUSTUS COFFIN, Assistant in Laryngology. June 11, 1906.
EDWARD COWLES, Instructor in Mental Diseases. June 11, 1906.
GEORGE ARTHUR CRAIGIN, Clinical Instructor in Pediatrics. June 11, 1906.
LEROI GODDARD CRANDON, Assistant in Surgery. June 11, 1906.
EUGENE ANTHONY CROCKETT, Instructor in Otology. June 11, 1906.
JOHN DANE, Instructor in Orthopedics. June 11, 1906.
LINCOLN DAVIS, Instructor in Anatomy. June 11, 1906.
FRANCIS PARKMAN DENNY, Assistant in Clinical Medicine. June 11, 1906.
CHARLES HUNTER DUNN, Assistant in Pediatrics. June 11, 1906.
SAMUEL HOLMES DURGIN, Lecturer on Hygiene. June 11, 1906.
EUGENE ELLSWORTH EVERETT, Assistant in Bacteriology. June 11, 1906.
WILLIAM EDWARD FAULKNER, Assistant in Surgery. June 11, 1906.
ELISHA FLAGG, Assistant in Anatomy. June 11, 1906.
LEO VICTOR FRIEDMAN, Assistant in Obstetrics. June 11, 1906.
LANGDON FROTHINGHAM, Austin Teaching Fellow in Bacteriology. June 11,
1906.

- GEORGE WASHINGTON GAY, Lecturer on Surgery. June 11, 1906.
JOEL ERNEST GOLDTHWAIT, Instructor in Orthopedics. June 11, 1906.
JOSEPH LINCOLN GOODALE, Assistant in Laryngology. June 11, 1906.
WILLIAM PHILLIPS GRAVES, Assistant in Gynaecology. June 11, 1906.
CHARLES MONTRAVILLE GREEN, Secretary of the Faculty of Medicine. June 11, 1906.
ROBERT BATTEY GREENOUGH, Instructor in Surgery. June 11, 1906.
PHILIP HAMMOND, Instructor in Otology. June 11, 1906.
FRANCIS BISHOP HARRINGTON, Lecturer on Surgery. June 11, 1906.
HENRY HILL HASKELL, Assistant in Ophthalmology. June 11, 1906.
LAWRENCE JOSEPH HENDERSON, Instructor in Biological Chemistry. June 11, 1906.
HENRY FOX HEWES, Instructor in the Clinical Laboratory. June 11, 1906.
EDWIN EVERETT JACK, Instructor in Ophthalmology. June 11, 1906.
JAMES MARSH JACKSON, Assistant in Clinical Medicine. June 11, 1906.
PIERRE JANET, Lecturer on the Major Symptoms of Hysteria. June 11, 1906.
DANIEL FISKE JONES, Assistant in Surgery. June 11, 1906.
PHILIP COOMES KNAPP, Clinical Instructor in Diseases of the Nervous System. June 11, 1906.
MAYNARD LADD, Instructor in Pediatrics. June 11, 1906.
WALTER AUGUSTUS LECOMPTE, Assistant in Otology. June 11, 1906.
PAUL ADIN LEWIS, Austin Teaching Fellow in Comparative Pathology. June 11, 1906.
EDWIN ALLEN LOCKE, Assistant in Clinical Medicine. June 11, 1906.
FREDERICK TAYLOR LORD, Assistant in Clinical Medicine. June 11, 1906.
ROBERT WILLIAMSON LOVETT, Instructor in Orthopedics. June 11, 1906.
FRED BATES LUND, Assistant in Surgery. June 11, 1906.
FRANCIS HENRY MCCRUDDEN, Assistant in Biological Chemistry. June 11, 1906.
GEORGE BURGESS MAGRATH, Assistant in Hygiene. June 11, 1906.
HENRY ORLANDO MARCY, Jr., Assistant in Anatomy. June 11, 1906.
ERNEST GALE MARTIN, Instructor in Physiology. June 11, 1906.
SAMUEL JASON MIXTER, Lecturer on Surgery. June 11, 1906.
GEORGE HOWARD MONKS, Lecturer on Surgery. June 11, 1906.
HARRIS PEYTON MOSHER, Assistant in Anatomy. June 11, 1906.
HARRIS PEYTON MOSHER, Assistant in Laryngology. June 11, 1906.
FRANKLIN SPILMAN NEWELL, Instructor in Obstetrics and Gynaecology. June 11, 1906.
WILLIAM NOYES, Clinical Instructor in Mental Diseases. June 11, 1906.
CALVIN GATES PAGE, Assistant in Bacteriology. June 11, 1906.
FRANCIS WINSLOW PALFREY, Assistant in Bacteriology. June 11, 1906.
HENRY JOSEPH PERRY, Assistant in Bacteriology. June 11, 1906.
ABNER POST, Instructor in Syphilis. June 11, 1906.
JOSEPH HERSEY PRATT, Assistant in the Theory and Practice of Physic. June 11, 1906.
ALEXANDER QUACKENBOSS, Instructor in Ophthalmology. June 11, 1906.
FRANK LINDEN RICHARDSON, Austin Teaching Fellow in Surgery. June 11, 1906.
ALEXANDER ROCKE ROBERTSON, Assistant in Pathology. June 11, 1906.
WILLIAM HENRY ROBEY, Jr., Assistant in Clinical Medicine. June 11, 1906.

- SAMUEL ROBINSON, Assistant in Anatomy. June 11, 1906.
 DAVID DANIEL SCANNELL, Assistant in Anatomy. June 11, 1906.
 LUTHER DIMMICK SHEPARD, Jr., Instructor in Histology. June 11, 1906.
 CHANNING CHAMBERLAIN SIMMONS, Assistant in Surgery. June 11, 1906.
 CHARLES MORTON SMITH, Assistant in Syphilis. June 11, 1906.
 WILLIAM HENRY SMITH, Assistant in Clinical Medicine. June 11, 1906.
 FRED MAURICE SPALDING, Assistant in Ophthalmology. June 11, 1906.
 ARTHUR KINGSBURY STONE, Assistant in the Theory and Practice of Physic.
 June 11, 1906.
 JAMES SAVAGE STONE, Assistant in Surgery. June 11, 1906.
 MALCOLM STORER, Assistant in Gynaecology. June 11, 1906.
 HOWARD TOWNSEND SWAIN, Assistant in Obstetrics. June 11, 1906.
 ROBERT JAMES TERRY, Teaching Fellow in Histology. May 7, 1906.
 EZRA RIPLEY THAYER, Lecturer on the Relation of the Medical Profession to
 the Law and the Courts. June 11, 1906.
 PAUL THORNDIKE, Instructor in Genito-Urinary Surgery. June 11, 1906.
 FRED WILBUR THYNG, Austin Teaching Fellow in Histology and Embry-
 ology. June 11, 1906.
 WILDER TILESTON, Assistant in Clinical Medicine. June 26, 1906.
 JAMES ROCKWELL TORBERT, Assistant in Obstetrics. June 11, 1906.
 HARVEY PARKER TOWLE, Assistant in Dermatology. June 11, 1906.
 GEORGE THOMAS TUTTLE, Clinical Instructor in Mental Diseases. June 11,
 1906.
 MAURICE VEJUX TYRODE, Instructor in Pharmacology. June 11, 1906.
 ERNEST EDWARD TYZZER, Assistant in Pathology. June 11, 1906.
 RICHARD GOODWIN WADSWORTH, Assistant in Anatomy. June 11, 1906.
 ERNEST DE WOLFE WALES, Assistant in Otology. June 11, 1906.
 GEORGE LINCOLN WALTON, Clinical Instructor in Diseases of the Nervous
 System. June 11, 1906.
 GEORGE ARTHUR WATERMAN, Assistant in Neurology. June 11, 1906.
 FRANCIS SEDGWICK WATSON, Lecturer on Genito-Urinary Surgery. June 11,
 1906.
 CHARLES JAMES WHITE, Instructor in Dermatology. June 11, 1906.
 FRANKLIN WARREN WHITE, Assistant in the Theory and Practice of Physic.
 June 11, 1906.
 SIMEON BURT WOLBACH, Instructor in Pathology. June 11, 1906.
 ARTHUR MORTON WORTHINGTON, Assistant in Bacteriology. June 11, 1906.
 ERNEST BOYEN YOUNG, Assistant in Gynaecology. June 11, 1906.

MEMBERS OF THE ADMINISTRATIVE BOARD OF THE MEDICAL SCHOOL.

[For 1905-06.]

SEPTEMBER 26, 1905.

WILLIAM LAMBERT RICHARDSON, *Dean*.

WALTER BRADFORD CANNON.	FREDERICK CHEEVER SHATTUCK.
CHARLES MONTRAVILLE GREEN.	JOHN WARREN.
CHARLES HARRINGTON.	JOHN COLLINS WARREN.
FRANK BURR MALLORY.	WILLIAM FISKE WHITNEY.

DENTAL SCHOOL.

[Without limit of time, or for more than one year.]

WILLIAM PARKER COOKE, Assistant Professor of Mechanical Dentistry for five years from September 1, 1905. October 30, 1905.

[For 1905-06.]

BENJAMIN HOWARD CODMAN, Instructor in Mechanical Dentistry. October 9, 1905.

JAMES BERNARD CROFWELL, Instructor in Mechanical Dentistry. October 9, 1905.

HORACE AMOS DAVIS, Instructor in Mechanical Dentistry. October 9, 1905.

MARTIN BASSETT DILL, Instructor in Mechanical Dentistry. October 9, 1905.

WILSON CASE DORT, Instructor in Mechanical Dentistry. October 9, 1905.

HARRY WEST HALEY, Instructor in Mechanical Dentistry. October 9, 1905.

HERBERT FRANK LANGLEY, Instructor in Mechanical Dentistry. October 9, 1905.

ROBERT TUCKER MOFFATT, Instructor in Mechanical Dentistry. October 9, 1905.

CHARLES GILMAN PIKE, Instructor in Operative Dentistry. November 6, 1905.

HENRY CARLTON SMITH, Austin Teaching Fellow in Dental Chemistry. October 9, 1905.

[For 1906-07.]

EDWIN CARTER BLAISDELL, Instructor in Operative Dentistry. June 11, 1906.

JOHN BAPTIST BLAKE, Instructor in Surgery. June 11, 1906.

ERNEST HOWARD CHUTE, Instructor in Mechanical Dentistry. June 11, 1906.

DWIGHT MOSES CLAPP, Clinical Lecturer on Operative Dentistry. June 11, 1906.

HARRY SYLVESTER CLARK, Instructor in Mechanical Dentistry. June 11, 1906.

HAROLD DEWITT CROSS, Demonstrator of Mechanical Dentistry. June 11, 1906.

HORACE AMOS DAVIS, Instructor in Mechanical Dentistry. June 11, 1906.

MARTIN BASSETT DILL, Instructor in Mechanical Dentistry. June 11, 1906.

WILSON CASE DORT, Instructor in Mechanical Dentistry. June 11, 1906.

FRANK LEROY EAMES, Instructor in Mechanical Dentistry. June 11, 1906.

ARTHUR WARREN ELDRED, Instructor in Mechanical Dentistry. June 11, 1906.

SAMUEL TUTTLE ELLIOTT, Instructor in Operative Dentistry. June 11, 1906.

JOHN WESLEY ESTABROOKS, Instructor in Mechanical Dentistry. June 11, 1906.

EDWIN LINWOOD FARRINGTON, Instructor in Extracting and Anaesthesia. June 11, 1906.

JAMES AUSTIN FURFEY, Instructor in Operative Dentistry. June 11, 1906.

AMOS IRVING HADLEY, Instructor in Mechanical Dentistry. June 11, 1906.

HARRY WEST HALEY, Instructor in Mechanical Dentistry. June 11, 1906.

ELBRIDGE DECOSMOS KING, Instructor in Mechanical Dentistry. June 11, 1906.

- HERBERT FRANK LANGLEY, Instructor in Mechanical Dentistry. June 11, 1906.
 MARQUIS D LITTEG, Instructor in Operative Dentistry. June 11, 1906.
 ELMER JOSEPH MARSTON, Instructor in Extracting and Anaesthesia. June 11, 1906.
 LEROY MATTHEW SIMPSON MINER, Instructor in Extracting and Anaesthesia. June 11, 1906.
 GEORGE HOWARD MONES, Lecturer on Surgery. June 11, 1906.
 JAMES JOSEPH O'BRIEN, Instructor in Extracting and Anaesthesia. June 11, 1906.
 JOSEPH TOTTEN PAUL, Instructor in Operative Dentistry. June 11, 1906.
 CHARLES GILMAN PIKE, Instructor in Operative Dentistry. June 11, 1906.
 NORMAN GREENE REOCH, Instructor in Orthodontia. June 11, 1906.
 MELVILLE FORREST ROGERS, Instructor in Operative Dentistry. June 11, 1906.
 HARRY BENJAMIN SHUMAN, Instructor in Oral Surgery. June 11, 1906.
 WILLIAM DANIEL SQUAREBRIGS, Instructor in Extracting and Anaesthesia. June 11, 1906.
 WILFRED HARLOW STARRATT, Instructor in Operative Dentistry. June 11, 1906.
 ARTHUR HENRY STODDARD, Clinical Lecturer on Mechanical Dentistry. June 11, 1906.
 EDWARD WYLLYS TAYLOR, Instructor in Neurology. June 11, 1906.
 WILLIAM HARRY WESTON, Instructor in Mechanical Dentistry. June 11, 1906.
 ROBERT WHITEHILL, Instructor in Operative Dentistry. June 11, 1906.
 EUGENE BARRY WYMAN, Demonstrator of Operative Dentistry. June 11, 1906.

MEMBERS OF THE ADMINISTRATIVE BOARD OF THE DENTAL SCHOOL.

[For 1905-06.]

SEPTEMBER 26, 1906.

WALDO ELIAS BOARDMAN.	WILLIAM PARKER COOKE.
CHARLES ALBERT BRACKETT.	HAROLD DEWITT CROSS.
EDWARD CORNELIUS BRIGGS.	WILLIAM HENRY POTTER.
DWIGHT MOSES CLAPP.	EUGENE HANES SMITH, <i>Dean</i> .

BUSSEY INSTITUTION.

[Without limit of time, or for more than one year.]

ALBERT EDWARD SHEDD, Instructor in Farming from September 1, 1906.
March 26, 1906.

[For 1906-07.]

DANIEL ALLEN CLARKE, Instructor in Botany. April 30, 1906.
 FRANK THOMPSON DILLINGHAM, Instructor in Agricultural Chemistry. April 30, 1906.
 CLIFTON HARLAN PAIGE, Instructor in Mathematics and Surveying. April 30, 1906.
 JOHN HAMILTON ROBINETTE, Instructor in Agriculture. April 30, 1906.

OTHER APPOINTMENTS.

[Without limit of time, or for more than one year.]

- HOWARD LANE BLACKWELL, Comptroller from March 1, 1906. February 12, 1906.
- GEORGE HENRY CHASE, Curator of Classical Antiquities from September 1, 1905. November 13, 1905.
- WILLIAM MORRIS DAVIS, Acting Dean of the Graduate School of Arts and Sciences from July 1, 1906, to September 1, 1907. May 7, 1906.
- JEROME DAVIS GREENE, Member of the Faculty of Arts and Sciences from September 1, 1905. December 11, 1905.
- JEROME DAVIS GREENE, Secretary to the Corporation from September 1, 1905. December 11, 1905.
- CHESTER NOYES GREENOUGH, Curator of American Literature in the College Library from September 1, 1905. November 27, 1905.
- AUGUSTUS HEMENWAY, Member of the Faculty of the Peabody Museum. January 29, 1906.
- HUGO MÜNSTERBERG, Director of the Psychological Laboratory from September 1, 1905. February 12, 1906.
- GEORGE HOWARD PARKER, Director of the Bermuda Biological Station for the Summer of 1905. June 27, 1905. Title changed to Acting Director, November 27, 1905.
- GEORGE ANDREW REISNER, Director of the Palestinian Expedition from September 1, 1905. November 13, 1905.
- EDGAR HUIDEKOPER WELLS, Member of the Faculty of Arts and Sciences from September 1, 1905. September 26, 1905.

[For 1905-06.]

- WILLIAM GREEN HALE, Auditor of the Randall Hall Association. October 30, 1905.
- ARTHUR HOLMES MORSE, Instructor in Mechanical Engineering for the Summer of 1906. April 30, 1906.

[For 1906-07.]

- HOWARD KEITH ALDEN, Auditor of the Randall Hall Association. June 26, 1906.
- GEORGE FOOT MOORE, Acting Curator of the Semitic Museum. June 26, 1906.

PREACHERS TO THE UNIVERSITY.

[For 1905-06.]

THOMAS AUGUSTUS JAGGAR. October 2, 1905.

[For 1906-07.]

JUNE 11, 1906.

LYMAN ABBOTT.

GEORGE ANGIER GORDON.

SAMUEL ATKINS ELIOT.

JAMES GORE KING McCCLURE.

HENRY VAN DYKE.

COMMITTEE ON THE REGULATION OF ATHLETIC SPORTS.

[Appointed June 11, 1906.]

Faculty Members:

ROGER BIGELOW MERRIMAN.

EDWARD HALL NICHOLS.

HORATIO STEVENS WHITE.

Graduate Members:

NORMAN WILLIAMS BINGHAM, Jr.

GEORGE RICHMOND FEARING, Jr.

ROBERT FREDERICK HERRICK.

TRUSTEES OF THE MUSEUM OF FINE ARTS.

NOVEMBER 27, 1905.

WILLIAM STURGIS BIGELOW.

ARTHUR TRACY CABOT.

JOHN TEMPLEMAN COOLIDGE, Jr.

REPORT OF THE COMMITTEE ON ADMISSION.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR, — I have the honor to submit to you a report of the work of the Committee on Admission.

The Committee were established by vote of the Faculty January 16, 1906, to take the places, so far as the admission of undergraduates is concerned, of five committees which formerly performed the work for as many different categories of students. The Committee entered upon their work with the understanding that they were to administer the admission of students more equably than had been possible when the work was divided, that they were to simplify, as far as possible, methods of admission, and that they were to promote closer relations between the University and secondary schools.

Since January 20, 1906, the Committee have held seventy-nine* meetings, and besides discussing matters of general policy have considered 1,132 applications for admission, and 116 applications for transference of registration from one department to another.

* Of this number 14 were held since the current academic year opened.

The applications for admission may be classified as follows: —

- I. Applications for admission to the Freshman Class by examination.
- II. Applications for admission with or without examination as Special Students.
- III. Applications for admission from other colleges and scientific schools.

I. APPLICATIONS FOR ADMISSION TO THE FRESHMAN CLASS BY EXAMINATION.

The results of the admission examinations of final candidates were as follows: —

	For the degree of A.B.	For the degree of S.B.
Admitted without conditions	179	4
Admitted with conditions	331	62
Total number admitted as Freshmen	510	66
Admitted as Special Students	28	38
Refused admission	65	38
Candidates in June who intended to finish in September, but who did not reappear	37	26
Total number of Final Candidates examined	640	168

Examinations were also taken by 843 Preliminary candidates, who were divided as follows: —

Candidates for degree of A.B.	722
Candidates for degree of S.B.	121

In the following tables the candidates examined, both Final and Preliminary, are classified according to residence: —

NORTH ATLANTIC DIVISION:		Virginia	2
Maine	18	West Virginia	2
New Hampshire	31	Georgia	2
Vermont	6		39
Massachusetts	966	WESTERN DIVISION:	
Rhode Island	11	Montana	1
Connecticut	15	Colorado	5
New York	236	New Mexico	1
New Jersey	33	Arizona	1
Pennsylvania	70	Utah	1
	1386	Nevada	1
SOUTH ATLANTIC DIVISION:		Washington	4
Delaware	5	Oregon	5
Maryland	15	California	18
District of Columbia	13		37

NORTH CENTRAL DIVISION:		Italy	1
Ohio	51	Mexico	1
Indiana	10	Russia	1
Illinois	36	Switzerland	1
Michigan	7		13
Wisconsin	9	SOUTH CENTRAL DIVISION:	
Minnesota	9	Kentucky	3
Iowa	6	Tennessee	4
Missouri	16	Alabama	1
North Dakota	2	Mississippi	1
South Dakota	1	Louisiana	1
Nebraska	3	Texas	2
Kansas	2	Arkansas	2
	152	Oklahoma	1
			15
FOREIGN:		INSULAR TERRITORIES AND DE-	
Canada	1	PENDENCIES:	
Cuba	1	Hawaii	5
England	2	HOME UNKNOWN	
Germany	2		4
India	2	Total	
Ireland	1		1651

In the following tables candidates who were actually admitted as candidates for the degree of A.B. in each of the last five years are classified according to the kind of schools they attended:—

	1902.	1903.	1904.	1905.	1906.
Number of Public Schools	101	89	87	72	80
Number of candidates	256	220	204	169	192
Number of Private Schools	45	45	48	33	44
Number of candidates	132	124	133	114	126
Number of Endowed Schools	32	27	26	30	29
Number of candidates	154	133	129	143	164

Percentage of candidates from various schools:—

Public	47.23+	46.12+	43.77+	39.67+	39.83+
Private	24.35+	25.99+	28.54	26.76	26.14+
Endowed	28.41+	27.88+	27.68+	33.56+	34.02+

The figures below show the numbers of candidates for the degree of A.B. admitted without conditions in each of the last five years:—

1902.	1903.	1904.	1905.	1906.
241	234	247	224	179

The lower number of men admitted without conditions this year is probably the effect of the new rule that a student must pay three dollars

for every examination taken to remove a condition. As conditions may be removed by College courses as well as by examination, men admitted with conditions in June who intended to continue in College the subjects in which they were conditioned naturally decided not to take in September examinations which cost three dollars each, since their conditions would be removed at the end of their Freshman year by their work in College courses. The number of men admitted with a condition in English would alone almost account for the whole difference between the figures for 1905 and 1906. As these men are required to take English A, and as English A removes a condition in English, they naturally decided not to take in September an examination which costs three dollars, and which is not necessary for the removal of their condition.

The following tables show in per cents. what proportion of the whole number of men admitted as Freshmen were conditioned in each prescribed study:—

Candidates for A.B.		Candidates for S.B.	
English	8.82	English	1.515
Greek or Latin	1.176	German or French	18.18
German or French	4.509	German and French	1.515
History	3.529	History	21.21
Algebra	4.31	Algebra	1.515
Plane Geometry	17.45	Plane Geometry	5.545
Science	13.725	Solid Geometry	48.48
		Science	7.575

The following tables show in per cents. what proportion of the whole number of men admitted as Freshmen were conditioned in elective studies counting from one to seven points:—

Candidates for A.B.		Candidates for S.B.	
One Point	44.31	One Point	57.575
Two "	38.039	Two "	42.42
Three "	13.33	Three "	27.27
Four "	11.76	Four "	18.18
Five "	4.31	Five "	10.606
Six "	2.745	Six "	3.03
Seven " . . . . .	.196		

Of the candidates for the degree of A.B. admitted with conditions, 27.64+ per cent. were conditioned in two points of advanced work.

The next table gives the percentages of failure in subjects taken by Preliminary candidates, i. e., by candidates who were recommended by their schools as prepared in those subjects:—

Elementary.	Number.	Failures.	Per cent.
English	361	204	56.51
Greek	298	20	6.71
Latin	559	181	32.38
German	306	114	37.25
French	538	160	29.74
History	530	146	27.55
Algebra	619	161	26.01
Plane Geometry . . .	346	134	38.73
Geometry	29	10	34.48
Physics	141	19	13.48
Chemistry	54	8	14.81
Geography	0	0	0.
Physiography	17	9	52.94
Anatomy	7	3	42.86
Harmony	3	1	33.33
Botany	7	1	14.29
Zoölogy	7	0	0.
Civil Government . . .	12	7	58.33
Economics	2	2	100.
Architectural Drawing	0	0	0.
Freehand	10	6	60.
Projections	11	5	45.45
Blacksmithing	17	5	29.41
Chipping	8	2	25.
Machine Work	2	0	0.
Woodworking	20	8	40.

Advanced.	Number.	Failures.	Per cent.
English (b)	19	15*	78.95
Greek	13	8	61.54
Latin	47	32	68.09
German	50	17	34.
French	106	38	35.85
History	13	8	61.54
Algebra	8	4	50.
Solid Geometry	22	13	59.09
Logarithms	21	12	57.14
Astronomy	0	0	0.
Meteorology	23	3	13.04
Physics	1	1	100.
Counterpoint	0	0	0.

* 5 credited Elementary English.

The next tables give the percentages of failure in each subject for all candidates, both Preliminary and Final:—

JUNE, 1906.

Elementary.	Number.	Failures.	Per cent.
English	767	345	44.98
Greek	384	37	9.64
Latin	807	270	33.46
German	502	182	36.25
French	771	264	34.24
History	785	212	27.01
Algebra	866	245	28.29
Plane Geometry	701	293	41.80
Geometry	70	34	48.57
Physics	541	75	13.86
Chemistry	231	42	18.18
Geography	4	4	100.
Physiography	39	19	48.72
Anatomy	16	8	50.
Harmony	18	11	61.11
Botany	9	1	11.11
Zoölogy	11	0	0.
Civil Government . . .	31	23	74.19
Economics	8	6	75.
Architectural Drawing	1	1	100.
Freehand	27	16	59.26
Projections	36	17	47.22
Blacksmithing	38	11	28.95
Chipping	24	4	16.67
Machine Work	28	13	46.43
Woodworking	43	11	25.58

Advanced.	Number.	Failures.	Per cent.
English (b)	215	118*	54.88
Greek	240	34	14.17
Latin	495	276	55.76
German	238	114	47.90
French	451	176	39.02
History	70	36	51.43
Algebra	79	29	36.71
Solid Geometry	170	100	58.82
Logarithms	155	64	41.29
Astronomy	3	2	66.67
Meteorology	35	3	8.57
Physics	7	3	42.86
Counterpoint	1	0	0.

* 48 credited Elementary English.

SEPTEMBER, 1906.

Elementary.	Number.	Failures.	Per cent.
English	227	72	31.72
Greek	40	7	17.50
Latin	189	79	41.80
German	123	87	70.73
French	186	64	34.41
History	179	71	39.66
Algebra	195	47	24.10
Plane Geometry . . .	199	88	44.22
Geometry	20	8	40.
Physics	77	36	46.75
Chemistry	42	14	33.33
Geography	5	5	100.
Physiography	17	16	94.12
Anatomy	5	2	40.
Harmony	5	1	20.
Botany	2	0	0.
Zoölogy	3	1	33.33
Civil Government . . .	32	19	59.38
Economics	12	11	91.67
Architectural Drawing	0	0	0.
Freehand	15	7	46.67
Projections	24	6	25.
Blacksmithing	10	2	20.
Chipping	7	2	28.57
Machine Work	11	2	18.18
Woodworking	7	1	14.29
Advanced.	Number.	Failures.	Per cent.
English (b)	48	24*	50.
Greek	25	9	36.
Latin	158	87	54.06
German	84	54	64.29
French	137	71	51.83
History	62	35	56.45
Algebra	41	15	36.59
Solid Geometry	57	43	75.44
Logarithms	43	16	37.21
Astronomy	0	0	0.
Meteorology	5	2	40.
Physics	1	1	100.
Counterpoint	0	0	0.

The figures given above suggest that the requirements for admission are not well adjusted to the work of secondary schools. In the Dean of the Faculty's report for 1901-02, the Dean stated that his experience in

* 16 credited Elementary English.

the College Office had led him to believe that the method of examinations for admission — then but recently adopted — was not as good as the Faculty meant it to be. Everyone who has had much to do with the admission requirements since that time must be aware that dissatisfaction with the requirements has been constantly increasing. Within the past year, two associations of head-masters have protested against the requirements, and have pointed out what they consider specific defects. On the other hand, it is interesting to note that seventy-six schools this year sent two hundred and one candidates prepared in more than the required number of subjects, and that of these one hundred and twenty-six entered without conditions and credited with extra subjects.

II. SPECIAL STUDENTS.

The Committee have considered in all one hundred and ninety-six cases of admission of Special Students. These cases may be classified as follows: —

1. Men who have no intention of ever becoming candidates for a degree, and who petitioned for admission without examination, basing their petitions on general maturity or special aptitudes.
2. Men who were unable to satisfy all the conditions of matriculation, and who for various reasons asked permission to register as Special Students pending full matriculation.

Of the first class the Committee admitted fifty-eight, and rejected thirty-one.

None of these applicants were admitted directly from any other institutions of learning. Most of them had not attended school or college for several years. Their classification according to ages is as follows: —

43 ... 1	28 ... 4	22 ... 8
41 ... 1	27 ... 4	21 ... 6
33 ... 3	26 ... 1	20 ... 6
31 ... 1	25 ... 1	19 ... 4
30 ... 2	24 ... 3	18 ... 1
29 ... 1	23 ... 9	

Of the second class the Committee admitted seventy-nine, and rejected twenty-eight.

These cases were the most troublesome cases with which the Committee dealt. In dealing with them, the Committee did not feel that their hands were entirely free. Before they took office an announcement had been made that under certain conditions men would be allowed to register as Special Students in the Lawrence Scientific School if they passed examinations counting thirteen points. This traditional policy the new Committee thought it desirable to discontinue for the sake of all concerned — the University, the schools, and the young men who were

thereby encouraged to enter College before they were properly prepared. Nevertheless, the Committee felt that in certain cases legitimate expectations had been created which should be fulfilled. None were admitted, however, without specific recommendations from those who knew them best as students; and almost all were admitted "on trial," that is, with the understanding that their privileges might be withdrawn without further warning if at any time they proved to be unworthy of them. Their classification, according to the degrees for which they ultimately wish to be candidates, is as follows: —

Prospective candidates for A.B.	37
Prospective candidates for S.B.	42

The Committee regret that the number of Special Students of the first class is not larger. It is a matter of surprise and regret that teachers, professional men, and men engaged in business which allows them some little leisure, do not oftener seek to profit by the resources of the University.

III. ADMISSION FROM OTHER COLLEGES AND SCIENTIFIC SCHOOLS.

Applications for admission to Harvard	175
Applications for admission to Radcliffe	19
Total number of cases considered	194
Number of colleges represented	97

Of the applicants for admission to Harvard, the Committee admitted one hundred and sixty-six, and rejected nine.

The following tables show the number of men who actually entered Harvard from other colleges and scientific schools in 1905 and 1906: —

	1905.	1906.
HARVARD COLLEGE.		
Seniors	5	7
Juniors	10	9
Sophomores	23	42
Freshmen	0	8
Special Students to be re-rated at the end of their first year or earlier . . .	19	27
LAWRENCE SCIENTIFIC SCHOOL.		
Fourth Year	0	3
Third "	5	3
Second "	9	3
First "	6	1
Special Students	17	0
	94	103

The category of Special Students in the table above is made up either of men who applied for admission from other colleges with which the

Committee were unacquainted, or of men about whose rating the Committee were uncertain. Such cases are reconsidered as soon as the men have Harvard records which show their quality as students.

The Committee also transferred to classes in Harvard College sixteen Special Students and one hundred students in the Lawrence Scientific School. The large number of students transferred from the Scientific School to the College is due to the establishment of the new degree of S.B. in Harvard College. These cases were often unusually perplexing because they involved a consideration not only of the relation of a "programme" to an elective course of study, but also of the relation of work done in another institution to the Harvard requirements.

The Committee have much at heart the improvement of the quality of the work offered for admission, and the establishment of closer relations between the University and secondary schools. Among the means which they have already taken to secure the first are the collection of school records, and an extension of the policy commended by the Dean of Harvard College in his last annual report, namely, that of determining admission in June not only by number of points, but also by grades. The Committee also adopted last June, for the first time, the practice of distinguishing between men with high records and men with low records among those admitted by admitting the latter "on trial" or "on probation."

These methods, adopted with the hope that they would have the effect of improving the quality of the work offered for admission, have also helped to secure the second end above mentioned — the establishment of closer relations with secondary schools. The schools have most cordially welcomed the Committee's attempt to coöperate with them in securing good work. There are also three other ways in which closer relations with schools have been promoted — by the adoption of the examinations of the College Entrance Examination Board, by the abolition of restrictions on preliminary examinations, and by the establishment of a Committee of the Board of Overseers on the Relation of the University to Secondary Schools.

During the last year our relations with the College Entrance Examination Board, of which Harvard has been a member since 1904, became for the first time serviceable. It was possible last June for a candidate to enter Harvard by Board examinations alone. Though the announcement of the plan by which Board examinations might be substituted for Harvard examinations was not made until March 1, ninety-nine candidates took Board examinations — thirty-three Final candidates and sixty-six Preliminary candidates. These candidates represented fifty-seven schools, only seventeen of which are in New England. From thirteen of these schools no student has entered Harvard during the last ten years. These Board examinations reach much farther than we can ever hope to reach with our own. Last June they were held in one hundred and forty places, whereas the Harvard examinations were held in only

fifty-one. By means of them we shall undoubtedly establish relations with many new schools.

In the circular dated March 1, in which the Committee announced the plan according to which Board examinations would be accepted as substitutes for corresponding Harvard examinations, they also announced certain changes in the rules governing examinations. The announcement was as follows:—

Hereafter, candidates who, at any time before their preparation is complete, wish to take examinations in subjects in which they are ready for examination may, with the approval of their schools, offer themselves either in June or in September for examination in any subjects or subject in which they present a certificate of preparation. Consequently, the old rules, (1) that candidates may not divide their examinations except between two years, and (2) that candidates failing in June may not be reexamined in September in the same subjects, are abolished.

Hereafter, preliminary candidates who have received certificates of preparation from their schools will be credited with any subject or subjects in which they pass. The old rule, which fixed a minimum number of points for which credit was given at a preliminary examination (eight for Harvard College and six for the Scientific School) is abolished.

These changes have been made in the interest of greater freedom, both for schools and for students, and to prevent overcrowding school programmes, especially in the last two years, with subjects already sufficiently studied, which students are obliged to carry for examination purposes only. The Committee hope that as a result of changes which allow candidates to take examinations when they are prepared, and to retain credit for whatever they actually accomplish, students will be able to make greater progress, either in the fields of study in which they have already been examined, or in other fields, and to do work of better quality.

Among the secondary schools that send boys to Harvard frequently, there was but one opinion concerning these changes in the rules—they were instantly and heartily approved. Numerous letters were received then, and are still received, praising the College for leading the way in much needed reforms. The following letter from the head-master of one of the largest schools in New England is typical of many received:—

I write to thank you for your circular of the 21st inst., announcing the changes in the rules governing the admission of students to Harvard College and the Lawrence Scientific School. I need hardly say that all the changes will be heartily welcomed by this school. Schools can no longer feel that they have not sufficient freedom in the matter of preparation of candidates for Harvard College and the Lawrence Scientific School, particularly in the last two years of the preparatory course of study, which have recently been greatly overcrowded years. It seems to me that the present rules must give you better prepared candidates for college work than the former rules.

Thanking you for the great relief which the new rules must bring to all thoroughly earnest secondary schools, I am, . . .

The announcement was made too late to have much effect on the June examinations; but some effect was shown in the increased registration for Preliminary examinations. The figures for the last five years are as follows: —

1902.		1903.		1904.		1905.		1906.	
A.B.	S.B.	A.B.	S.B.	A.B.	S.B.	A.B.	S.B.	A.B.	S.B.
624	82	709	96	659	111	629	98	722	121

Of the seven hundred and twenty-two men who expect to be candidates for the degree of A.B., ninety took advantage of the new rules by taking examinations counting less than eight points; of the one hundred and twenty-one who expect to be candidates for the degree of S.B., sixteen took examinations counting less than six points. (The old rules prescribed eight and six points as the minimum numbers for candidates for the degrees of A.B. and of S.B. respectively.)

As another means of promoting closer relationships between the University and secondary schools, the Committee suggested the appointment by the Board of Overseers of a new "visiting committee" composed partly of schoolmasters, whose functions shall be to inquire into the relations of the College and Scientific School with secondary schools, the terms of admission, and their administration, with a view to making available for the Faculty impartial criticism and advice from outside the University, and to giving the schools the feeling that their opinions and interests have representation on an official committee of the University. The Committee has been established.

In examining the 1,132 applications with which the Committee have dealt this year, they have discovered more problems than they have solved; but they believe that some progress has been made toward simpler and more equitable methods of admission; and they look forward hopefully to a better adjustment of our methods and requirements to school work.

J. G. HART,

Chairman of the Committee on Admission.

REPORT OF THE SECRETARY FOR APPOINTMENTS.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—I have the honor of presenting a report of the work of the Appointments Office for the year ending September 30, 1906.

The total number of men registered with the Office on September 30, 1906, was 3,338 as against 3,150 at the same date in 1905,—an increase of 188. During the year 1905–06, as formerly, the demand on the University for teachers has exceeded that for men to fill business or technical positions.

The following table shows, as reported to the Office, the number of calls for teachers from schools, colleges or universities, and for men to take positions in business houses:—

Calls for Teachers:—

Direct from Schools, Colleges, and Universities	518	
Indirect, through Teachers' Agencies	235	753

Calls from Business Houses:—

Direct	205	
Indirect, through Agencies	13	218
Total calls to fill Permanent Positions		971

The following tables show the number of permanent positions filled.
The total is 444:—

PERMANENT TEACHING POSITIONS.

Universities or Colleges:—

Harvard University	103	
Other Universities and Colleges	68	171

Technical Schools:—

Harvard University	9	
Other Technical Schools	10	19

Normal Schools 2

Naval Academy 2

Cadet School, U.S. Revenue Cutter Service 2

Private Schools, Endowed Schools, Academies, Seminaries:—

Regular Teachers	32	
Substitute Teachers	2	34

Public High Schools 10

Winter Camp (Teacher) 1

Tutor for Schools 1

Tutors or Companions (one year) 17

Private Assistant to Professor 1

Total 260

ADMINISTRATIVE POSITIONS (EDUCATIONAL).

Superintendents of Schools	4
Head-masters or Principals	8
Sub-masters	3
Total	<u>15</u>

COLLEGE POSITIONS (NOT TEACHING).

Corrector (examination books)	1
Librarian	1
Proctors (College rooms)	74
Secretary	1
Total	<u>77</u>

PERMANENT BUSINESS POSITIONS.

Banking Houses	4	Law Office	1
Brokerage Firms	4	Manufacturing Concerns	6
Club Clerk	1	Newspaper Reporter	1
Department Stores	2	Publishing House	1
Dry Goods House	1	Secretaries	2
Hotel Clerk	1	Secretary of Legation	1
Importing Houses	2	Telephone Companies	6
Insurance Companies :—		Total	<u>35</u>
Fire Insurance	1		
Actuary	<u>1</u> 2		

PERMANENT BUSINESS POSITIONS (TECHNICAL).

Chemists	11
Draughtsman and Designer, Landscape Architect's Office	1
Engineers :	
Civil	6
Electrical	19
Mechanical	4
Mining and Metallurgical	<u>13</u>
Geologist	1
Pathologist	1
Zoölogist	1
Total	<u>57</u>

The following table shows the number of temporary positions filled, —
1,085 in all: —

TEMPORARY WORK.

Athletic Coaches	2	Outing Class Teacher	1
Attendants	4	Painters (House)	3
Botanical Collector	1	Printers	3
Canvassers	21	Proctors for Examinations	78
Caretakers of Houses	3	Readers	10
Chauffeur	1	Research Worker	1
Choremen	32	Room for Services	5
Clerks	174	Secretaries	6
Collectors	24	Settlement Workers	2
Companion (Travelling)	1	Snow Shovellers	5
Correctors (Examination Books, Themes)	3	Solicitors	10
Destroying Tree Pests	1	Stenographers	17
Dramatic Club (Scene Shifters, Chair Movers, etc.)	11	Store Clerks	43
Draughtsmen	6	Substitutes or Tutors for Schools	7
Elevator Man	1	Summer Camp:—	
Errands (Messengers)	9	Councillors	3
Farm Hands	3	Tutors	2 5
Furnace Tenders	5	Summer School Teachers	3
Gardening	3	Supervisors of Study	32
Guides	46	Surveyors	2
Hotel Help	13	Ticket Takers	198
Inspector (Concrete Work)	1	Translators	2
Laboratory Assistant (Wood's Hole Biological Station)	1	Tutors or Companions (less than one year)	41
Lecturers	2	Tutors (Special Subjects)	127
Library Attendants	16	Tutors (Chinese Students)	3
Masseur	1	Typewriters	10
Meter Readers	32	Usher	1
Monitors	19	Waiters	4
Museum Guards	19	Watchman (Day)	1
Musicians	11	Total	1085
Newspaper Correspondents	8		
Night School Teacher	1	Total permanent and temporary positions	1529

GEOGRAPHICAL DISTRIBUTION.

	Universities or Colleges.	Technical Schools.	Normal Schools.	Naval Academies.	Cadet Schools.	Public Schools.	Private Schools, Endowed, Academies, Seminaries.	Winter Camp.	Substitutes for Schools.	Tutor for Schools.
NORTH ATLANTIC DIVISION:										
Maine . . . . .	..	..	..	..	..	..	..	..	..	..
New Hampshire	3	..	..	..	..	..	2	1	..	..
Vermont . . . . .	..	..	..	..	..	..	..	..	..	..
Massachusetts	107	12	..	..	..	1	11	..	..	..
Rhode Island . . . . .	..	..	..	..	..	..	..	..	..	..
Connecticut	2	..	..	..	..	..	3	..	..	..
New York	5	2	..	..	..	3	5	..	..	..
New Jersey . . . . .	..	..	..	..	..	..	1	..	2	1
Pennsylvania	6	..	1	..	..	1	2	..	..	..
SOUTH ATLANTIC DIVISION:										
Maryland	1	..	..	2	2	..	2	..	..	..
District of Columbia . . . . .	..	..	..	..	..	..	..	..	..	..
North Carolina	1	1	..	..	..	..	1	..	..	..
Georgia . . . . .	..	2	..	..	..	..	..	..	..	..
SOUTH CENTRAL DIVISION:										
Kentucky . . . . .	..	..	..	..	..	1	..	..	..	..
Alabama . . . . .	..	..	..	..	..	..	..	..	..	..
Texas	1	..	..	..	..	..	..	..	..	..
NORTH CENTRAL DIVISION:										
Ohio	6	1	..	..	..	..	3	..	..	..
Indiana	4	..	..	..	..	..	..	..	..	..
Illinois	8	..	1	..	..	..	1	..	..	..
Michigan	1	..	..	..	..	..	..	..	..	..
Wisconsin	7	..	..	..	..	..	..	..	..	..
Minnesota	1	..	..	..	..	..	..	..	..	..
Iowa	1	..	..	..	..	1	..	..	..	..
Missouri	4	..	..	..	..	1	..	..	..	..
South Dakota . . . . .	..	1	..	..	..	..	..	..	..	..
Kansas	1	..	..	..	..	2	..	..	..	..
WESTERN DIVISION:										
Montana . . . . .	..	..	..	..	..	..	..	..	..	..
Colorado	2	..	..	..	..	..	..	..	..	..
Nevada . . . . .	..	..	..	..	..	..	..	..	..	..
Idaho	1	..	..	..	..	..	..	..	..	..
Washington	2	..	..	..	..	..	..	..	..	..
California	2	..	..	..	..	..	1	..	..	..
CANADA	3	..	..	..	..	..	..	..	..	..
CUBA . . . . .	..	..	..	..	..	..	..	..	..	..
HAWAII . . . . .	..	..	..	..	..	..	..	..	..	..
ENGLAND . . . . .	..	..	..	..	..	..	..	..	..	..
FRANCE	1	..	..	..	..	..	..	..	..	..
PORTUGAL . . . . .	..	..	..	..	..	..	..	..	..	..
EUROPE (or general travel) . . . . .	..	..	..	..	..	..	..	..	..	..
CHINA	1	..	..	..	..	..	..	..	..	..
Total positions	171	19	2	2	2	10	32	1	2	1

GEOGRAPHICAL DISTRIBUTION (*concluded*).

	Tutors or Companions 1 year.	Superintendent.	Head-master or Principal.	Sub-masters.	Proctors (College Rooms).	Private Assistant to Pro- fessor.	Corrector — Examination Books.	Business.	Business — Technical.	Totals for States.
NORTH ATLANTIC DIVISION :										
Maine	1	..	1	..	..	..	..	..	1	8
New Hampshire . . . . .	..	..	1	..	..	..	..	..	1	8
Vermont	1	..	..	..	..	..	..	..	..	1
Massachusetts	6	8	8	8	74	1	1	23	19	264
Rhode Island	1	1	..	..	..	..	..	..	1	8
Connecticut	1	..	..	..	..	..	..	..	..	6
New York	2	..	..	..	..	..	..	9	16	42
New Jersey	1	..	1	..	..	..	..	..	1	7
Pennsylvania	1	..	1	..	..	..	..	1	2	15
SOUTH ATLANTIC DIVISION :										
Maryland . . . . .	..	..	..	..	..	..	..	..	..	7
District of Columbia . . . . .	..	..	..	..	..	..	..	..	1	1
North Carolina . . . . .	..	..	..	..	..	..	..	..	..	8
Georgia . . . . .	..	..	..	..	..	..	..	..	..	2
SOUTH CENTRAL DIVISION :										
Kentucky . . . . .	..	..	..	..	..	..	..	..	..	1
Alabama . . . . .	..	..	..	..	..	..	..	..	1	1
Texas . . . . .	..	..	..	..	..	..	..	..	1	2
NORTH CENTRAL DIVISION :										
Ohio . . . . .	..	..	..	..	..	..	..	1	1	12
Indiana . . . . .	..	..	..	..	..	..	..	..	..	4
Illinois . . . . .	..	..	..	..	..	..	..	..	1	11
Michigan . . . . .	..	..	..	..	..	..	..	..	8	4
Wisconsin . . . . .	..	..	..	..	..	..	..	..	..	7
Minnesota . . . . .	..	..	..	..	..	..	..	..	1	2
Iowa . . . . .	..	..	1	..	..	..	..	..	..	8
Missouri . . . . .	..	..	..	..	..	..	..	..	2	7
South Dakota . . . . .	..	..	..	..	..	..	..	..	..	1
Kansas . . . . .	..	..	..	..	..	..	..	..	..	8
WESTERN DIVISION :										
Montana . . . . .	..	..	..	..	..	..	..	1	..	1
Colorado	1	..	..	..	..	..	..	..	..	8
Nevada . . . . .	..	..	..	..	..	..	..	..	1	1
Idaho . . . . .	..	..	..	..	..	..	..	..	..	1
Washington . . . . .	..	..	..	..	..	..	..	..	..	2
California . . . . .	..	..	..	..	..	..	..	..	..	8
CANADA . . . . .	..	..	..	..	..	..	..	..	1	4
CUBA . . . . .	..	..	..	..	..	..	..	..	2	2
HAWAII . . . . .	..	..	..	..	..	..	..	..	1	1
ENGLAND	1	..	..	..	..	..	..	..	..	1
FRANCE . . . . .	..	..	..	..	..	..	..	1	..	2
PORTUGAL . . . . .	..	..	..	..	..	..	..	1	..	1
EUROPE (or general travel)	1	..	..	..	..	..	..	..	..	1
CHINA . . . . .	..	..	..	..	..	..	..	..	..	1
	17	4	8	8	74	1	1	37	57	444

The following table shows the demands on various Departments of the University for teachers in single subjects : —

Greek	7	Mathematics	18
Latin	6	Engineering	2
English	43	Landscape Architecture	1
Public Speaking	6	Astronomy	4
French	6	Physics	3
German	4	Chemistry	22
Spanish	1	Biology	1
History	28	Physiography	1
Government	6	Metallurgy	1
Economics	10	Geology	5
Law	5	Botany	7
Philosophy	3	Dentistry	2
Psychology	1	Pathology	3
Social Ethics	1	Music	2
Education	2	Total	196

The following table shows the number of men supplied to teach combined subjects : —

Greek and Latin	8	German, Physics, and Music . . .	1
Classics and Mathematics	1	History and Government	2
Latin and Mathematics	1	History and English	1
Latin, Mathematics, and History . . .	1	History and French	1
Latin and General Subjects	1	History, Greek, and Physical Director	1
English, Latin, and Mathematics . . .	1	Civil Government, General History, Spanish, and English . . .	1
English and German	1	Mathematics and Astronomy . . .	1
English and General Subjects	1	Mathematics and English	1
French, English, Greek, Algebra, and Geometry	1	Mining and Metallurgy	1
French and Italian	1	Physics and Chemistry	1
French and Spanish	1	Chemistry and Biology	1
French, German, and Latin	1	Zoölogy and Chemistry	1
French, German, Latin, and History . .	1	Biology and Geology	1
Romance Languages	9	General Teacher	1
German and French	2	Total	47
German and Latin	1		

The table on pages 350, 351 sets forth the geographical distribution of the permanent teaching, educational, and business positions filled.

The salaries of 393 out of the 444 permanent positions filled amount to \$305,267.83; divided as follows : —

	Salaries.	Number of Positions.
Universities, Colleges, and Technical Schools	\$150,547.00	254
Secondary Schools	81,910.00	60
Tutoring	17,771.00	15
Business	55,039.83	64
Total	\$305,267.83	393

No report has been received from 51 men; their salaries may be estimated at \$30,800.

The above tables show the number of positions filled by the Appointments Office in coöperation with the various Departments of the University. The increase over last year of 411 is to be explained partly by the natural growth of the Office, partly also by the closer coöperation of the Departments, not only in making suggestions to the Office but also in reporting the positions secured through their direct recommendation. Satisfactory as this increase is, there is yet much to be done in bringing the Office into communication with the leading business houses in different parts of the country, and in encouraging students of the various graduate schools of the University to register with the Office.

E. H. WELLS,

Secretary for Appointments.

ORDINARY DEGREES CONFERRED, 1902-06.

	1902.	1903.	1904.	1905.	1906.
Bachelors of Arts	422	511	459	427	374
Bachelors of Arts out of course	32	42	38	44	52
Bachelors of Science	76	101	77	91	62
Bachelors of Science out of course	7	5	7	16	13
Bachelors of Divinity	5	4	7	7	6
Bachelors of Divinity out of course	1	1	1	0	0
Bachelors of Laws	146	157	169	170	178
Bachelors of Laws out of course	16	6	13	13	13
Bachelors of Agricultural Science	5	6	3	1	2
Doctors of Medicine	130	109	131	82	80
Doctors of Medicine out of course	1	3	4	2	1
Doctors of Dental Medicine	32	27	25	32	34
Doctors of Veterinary Medicine	0	0	0	0	0
Doctor of Veterinary Medicine out of course	1	0	0	0	0
Masters of Arts	110	117	157	131	110
Masters of Arts out of course	10	8	5	12	4
Masters of Science	8	6	2	4	3
Masters of Science out of course	0	1	0	1	0
Doctors of Philosophy	28	28	46	39	46
Doctors of Science	3	1	1	0	0
Metallurgical Engineer	0	0	0	1	0
Mining Engineers	0	0	0	0	3
Totals	1083	1138	1145	1073	981

TABLE I.
ILLNESS REPORT, 1905-06.

Diseases.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Appendicitis . . . . .	..	9	4	6	8	5	6	5	1	3	47
Asthma . . . . .	..	..	2	2	..	1	1	3	1	..	10
Bronchitis . . . . .	..	3	4	9	6	2	8	7	2	..	41
Chicken-pox . . . . .	..	..	..	..	..	..	..	..	1	..	1
Colds—unclassified . .	..	7	22	9	18	20	19	18	9	..	122
Coryza . . . . .	..	2	2	1	7	..	2	1	..	..	15
Diarrhoea . . . . .	..	6	2	6	4	1	3	2	3	2	29
Diphtheria . . . . .	..	1	1	..	17	12	3	..	1	..	35
Ear, of the . . . . .	..	1	1	2	5	..	2	2	3	..	16
Eye, of the . . . . .	..	8	7	10	5	11	16	11	14	1	83
General Debility . . .	1	6	7	7	9	13	11	14	13	7	88
Headache . . . . .	..	2	1	..	..	2	2	4	2	2	15
Indigestion . . . . .	..	16	8	15	15	5	6	17	5	5	92
Insomnia . . . . .	..	..	..	2	2	..	2	..	..	..	6
Jaundice . . . . .	..	4	2	4	5	..	2	..	1	1	19
La Grippe	1	10	11	6	22	13	14	26	11	1	115
Laryngitis . . . . .	..	1	..	2	2	1	4	2	..	..	13
Malaria . . . . .	..	1	..	..	..	..	..	1	1	2	5
Measles . . . . .	..	..	..	3	7	..	2	13	3	..	28
Miscellaneous	1	17	20	18	20	14	17	17	7	6	137
Mumps . . . . .	..	..	..	..	5	3	6	5	..	..	19
Neuralgia . . . . .	..	1	1	..	2	1	1	3	3	..	12
Pharyngitis . . . . .	..	4	1	7	22	12	3	5	6	..	60
Pneumonia . . . . .	..	..	..	..	..	1	..	..	..	..	1
Rheumatism . . . . .	..	..	3	5	4	4	11	4	4	..	35
Scarlet Fever . . . .	..	..	..	..	1	..	6	..	1	..	8
Skin, of the	1	4	8	2	3	2	5	2	3	1	26
Surgical	1	43	44	30	27	28	28	30	24	6	261
Teeth, of the . . . .	..	..	1	..	3	1	1	3	5	..	14
Tonsilitis	1	9	10	14	30	15	25	18	23	5	150
Typhoid . . . . .	..	2	1	..	..	..	..	..	..	..	3
Totals	6	157	158	160	249	167	206	213	147	42	1505
Visits	1	124	113	222	251	190	199	168	160	58	1486
Office consultations, medical	20	244	279	218	403	241	279	273	141	140	2238
Office consultations, surgical	11	149	169	142	161	65	116	122	170	81	1186
Total number of con- sultations	32	517	561	582	815	496	594	563	471	279	4910
Calls on students not found in (not included in above)											5
Other cases not seen by the Medical Visitor											628

TABLE II.

ILLNESS REPORT AS RELATED TO THE DIFFERENT SCHOOLS.

Diseases.	College.					Scientific.					Law.	Graduate.	Divinity.	Medical.	Totals.
	1	2	3	4	Sp.	1	2	3	4	Sp.					
Appendicitis . .	7	12	4	4	2	3	..	2	1	2	10	..	..	..	47
Asthma	2	1	6	..	1	..	..	..	..	..	..	..	..	..	10
Bronchitis . . .	8	12	9	1	..	2	..	2	..	4	3	..	..	..	41
Chicken-pox . .	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1
Colds, unclassified	24	46	23	3	5	4	4	..	2	3	5	3	..	..	122
Coryza	3	7	..	2	..	..	1	..	..	..	1	..	1	..	15
Diarrhoea	2	16	7	1	..	1	..	..	1	..	1	..	..	..	29
Diphtheria . . .	5	6	4	2	1	3	..	1	1	..	10	2	..	..	35
Ear, of the . . .	4	2	4	..	..	..	1	2	..	1	1	1	..	..	16
Eye, of the . . .	23	30	10	5	1	6	..	2	1	5	..	..	..	..	88
General Debility .	12	25	12	13	8	3	..	1	1	4	3	5	1	..	88
Headache	2	2	4	1	2	..	2	..	..	1	..	1	..	..	15
Indigestion . . .	22	27	11	6	8	2	2	3	1	2	7	1	..	..	92
Insomnia . . . .	..	2	2	..	2	..	..	..	..	..	..	..	..	..	6
Jaundice	4	8	3	..	..	..	1	..	..	..	1	1	..	1	19
La Grippe	25	22	20	13	3	3	3	3	3	8	7	4	1	..	115
Laryngitis . . .	1	5	3	1	..	..	1	..	1	..	..	..	..	..	12
Malaria . . . . .	..	3	..	..	..	1	..	..	..	..	1	..	..	..	5
Measles	11	8	5	1	2	1	..	..	..	..	..	..	..	..	28
Miscellaneous . .	18	28	25	11	11	6	3	4	1	2	15	13	..	..	137
Mumps	8	3	1	2	..	..	..	1	..	..	..	3	..	1	19
Neuralgia	1	6	2	1	..	..	1	..	1	..	..	..	..	..	12
Pharyngitis . . .	12	24	9	6	3	1	1	..	..	..	4	..	..	..	60
Pneumonia	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Rheumatism . . .	7	8	6	5	3	..	2	..	1	1	2	..	..	..	35
Scarlet Fever . .	2	1	2	1	..	..	..	1	..	..	1	..	..	..	8
Skin, of the . . .	3	7	6	2	1	1	1	..	..	1	2	2	..	..	26
Surgical	53	58	40	25	7	7	7	6	3	7	35	10	1	2	261
Teeth, of the . .	4	5	2	1	..	..	..	..	..	..	2	..	..	..	14
Tonsillitis	34	34	25	14	10	4	2	2	6	2	7	8	2	..	150
Typhoid	1	..	1	1	..	..	..	..	..	..	..	..	..	..	8
Totals	399	409	246	122	70	48	32	30	24	43	118	54	6	4	1505
No. of Students .	498	601	417	242	151	95	181	73	63	186	717	378	37	..	
% of "Sign-offs"	61	68	59	51	46	51	24	41	38	32	16	14	16	..	
No. of Students cared for at In- firmmary	41	85	60	37	17	13	11	9	11	17	90	33	2	6	
% of "Sign-offs"	8	14	14	15	11	14	8	12	17	12	13	9	5	..	

TABLE III.
STILLMAN INFIRMARY.

LIST OF CASES, 1905-06.

Abscess ischio-rectal	2	La Grippe	44
“ peritonsillar	3	Laryngitis	3
“ miscellaneous	6	Malaria	4
Adenitis	1	Measles	11
Adenoids	2	Miscellaneous Medical	38
Appendicitis	27	“ Surgical	59
Bronchitis	10	Mumps	7
Carbuncle	2	Neurasthenia	6
Chicken-pox	1	Otitis Media	3
Concussion — cerebral	4	Peritonsillitis	6
Colds — unclassified	19	Pharyngitis	5
Coryza	2	Pleuritis	2
Debility	3	Rheumatism	6
Diphtheria	29	Sepsis	22
Dislocations	4	Scarlet Fever	6
Fracture—second cervical vertebra	1	Synovitis of knee	2
“ colles	1	Tonsillitis	58
“ femur	1	Tuberculosis — pulmonary	1
“ fibula	1	Typhoid Fever	1
“ patella	1	Urticaria	1
“ radius	1	No diagnosis	15
Gastro enteritis	4		—
Jaundice	7	Total	432
Room patients			91
Ward patients			341
Total			432
Discharged—well			257
“ relieved			169
“ not relieved			5
Died			1
Total			432
Total number of hospital days			3,432
Daily average			12.43

TABLE IV.

ILLNESS TOTALS BY DISEASES, 1899-1906.

Diseases.	1899-00	1900-01	1901-02	1902-03	1903-04	1904-05	1905-06
Appendicitis	17	33	38	36	26	32	47
Asthma . . . . .	..	..	..	..	13	8	10
Bronchitis . . . . .	..	..	133	114	88	68	41
Chicken-pox	11	6	2	7	6	10	1
Colds — unclassified	1416	1396	223	885	894	477	122
Coryza . . . . .	..	..	299	82	61	89	15
Diarrhoea	285	184	157	240	154	97	29
Diphtheria	5	12	4	7	13	11	35
Ear, of the	46	43	40	45	25	32	16
Eye, of the	266	259	228	228	226	278	83
General Debility	69	95	64	70	98	87	88
Headache	209	147	98	137	144	128	15
Indigestion	370	411	372	433	481	335	92
Insomnia . . . . .	..	..	15	19	15	23	6
Jaundice	20	17	11	19	20	14	19
La Grippe	210	276	99	422	307	303	115
Laryngitis . . . . .	..	..	22	23	25	16	12
Malaria	31	32	26	33	26	29	5
Measles	106	1	42	7	75	20	28
Miscellaneous	494	719	406	390	304	270	187
Mumps	44	66	3	12	28	24	19
Neuralgia	69	68	64	56	55	38	12
Pharyngitis . . . . .	..	..	307	168	201	144	60
Pneumonia	9	6	10	7	9	5	1
Rheumatism	61	53	46	41	57	30	35
Scarlet Fever	3	4	2	7	7	..	8
Skin, of the	26	79	80	61	60	40	26
Surgical	335	429	355	377	377	332	261
Teeth, of the . . . . .	..	..	43	80	87	56	14
Tonsillitis	213	153	135	201	230	161	150
Typhoid	9	15	10	6	8	10	3

TABLE V.

ILLNESS YEARLY TOTALS, 1899-1906.

	1899-00	1900-01	1901-02	1902-03	1903-04	1904-05	1905-06
Total Cases of Illness . . .	4392	4608	3457	4298	4232	3176	1505
Visits by Medical Visitor . .	1463	1326	1050	778	1137	1273	1486
Office Consultations	1886	2279	2500	1887	3056	3038	3424
Total Consultations	3349	3605	3550	2665	4193	4311	4910
Calls on Students not found in	412	424	280	342	268	119	5
Other cases not seen by the Medical Visitor	2017	2186	1558	2031	2800	2095	623

TABLE VI.

STUDENTS CARED FOR AT THE STILLMAN INFIRMARY, 1902-1906.

	1902-03	1903-04	1904-05	1905-06
Ward patients	184	173	264	341
Private room	89	117	113	91
Total number admitted	223	290	377	432
Total number hospital days	1682	1805	2631	3432
Daily average	6.16	6.58	9.63	12.43

INDEX.

	PAGE
Additional courses, fee for	18
Administrative Boards	8
Administrative duties of teachers	11
Admission, Committee on	12, 13, 16, 19, 885
Admission examinations, fees for	24
Admission requirements, attitude of secondary schools toward	20
Admission, rules concerning	17
Agassiz, Alexander	85
A.M. degree, changes in requirements for	101
American Universities, Association of	183
Appointments Office	51, 847
ARNOLD ARBORETUM, Report on	235
Association of the Alumni of Harvard College, Amendment to Constitution	52
ATHLETIC SPORTS, Report on	119
Committee on Regulation of	88, 129, 885
Base-ball	126
Equipment, changes, and improvements in	119
Expenses tabulated	122-125
Finances	121
Foot-ball	126
Gross exaggeration of	44
Regulation of Committee on	128
Rowing	126
Track athletics	126
Barnard, J. M.	166
BOTANIC GARDEN, Report on	230
Botanical Station in Cuba	38, 282
Bowditch, H. P., resignation of	7
BUSSEY INSTITUTION, Report on	199
Appointments	883
CHEMICAL LABORATORY, Report on	38, 237
Chinese students in Harvard University	40
Clapp, D. M., death of	198
Coolidge, A. C.	43
Courses of Instruction, Overseers' Committee on	10
Danforth, Allen, resignation of	7
Deaths	5, 816
Degree with Distinction in History and Literature	100
Degrees conferred, 1902-06	853
Degrees conferred in the middle of the year	12
Delano, W., Jr.	48
DENTAL SCHOOL, Report on	81, 193
Administrative Board	833
Appointments	832
Clinical instruction	195
Courses of instruction	193
Registration statistics	193
Researches	196
Summer Course	82, 197
Teeth examined in public schools	196

	PAGE
DIVINITY SCHOOL, Report on	25, 157
Appointments	327
Degrees given	158
Denominations represented in Summer School	159
Interchange of instruction with Faculty of Arts and Sciences	157
Library	162
Registration	158
Colleges represented	158
Courses of instruction	160-162
Summer School of Theology	159
Theological seminaries represented	158
Doctor of Arts, degree of	27
Dormitories, experiments in leasing of	49
Emerson Hall	34
Emerson Hall, special reference libraries in	210
ENGINEERING, DIVISION OF, Report on	34, 246
EXAMINATION PROCTORS	327
FACULTY OF ARTS AND SCIENCES, Report on	13, 59
Additional courses, fees for	13
Administrative duties of members	12, 103
Admission, Committee on	12, 16, 17, 19, 99, 335
Admission examinations, fee for	24
A.M. degree, changes in requirements for	101
Appointments	318
Changes in the personnel of	97
Courses given in 1905-06	59-89
Courses of Instruction, Overseers' Committee on	10
Degrees, proposal to change requirements for	24
Enrolments by Departments	89
Enrolments in large courses	91
Death of Professors	103
Degree with Distinction in History and Literature	100
Scholarships and other Aids, Committee on	12
Smaller elective courses, value of	98
Special Students, Committee on	18
Summer Courses, 1906	92
Variations in enrolment in Departments	25
FOGG ART MUSEUM, Report on	36, 303
Foot-ball, improvements in	43
Friday Afternoon and Saturday Courses for Teachers	102
Gazette, University	8
GEOLOGY AND GEOGRAPHY, DEPARTMENT OF, Report on	276
German Universities, interchange of professors with	43
GERMANIC MUSEUM, Report on	36, 307
Gifts for the year, amount of	55
Gifts to the University, best form of	53
GRADUATE SCHOOL OF APPLIED SCIENCE	21
Degrees granted in various subjects	21
Title of	8
GRADUATE SCHOOL OF ARTS AND SCIENCES, Report on	25, 131
Administrative Board	132, 325
Age of students recommended for degrees	148, 149
A.M. degree, changes in requirements for	101
Bachelors' degrees represented	137
Birthplaces of students	143
Colleges and Universities represented	138-143

	PAGE
GRADUATE SCHOOL OF ARTS AND SCIENCES.—Concluded.	
Conant Hall	182
Degrees conferred	144
Divisions and Departments represented by candidates for degrees . . .	144
Doctors of Philosophy	146
Fellowships and scholarships	188, 149
First-year students: percentage from various institutions	187
Number and classification of students	184
Percentage of students from other colleges	187
Percentage of students in their first and following years	185
Ph.D. degree in Biological Chemistry	183
Residences of students	148
Resident students doing full work and non-resident students	186
GRAY HERBARIUM, Report on	225
Greek Play	47, 120
Hale, E., Resignation of	157
Hart, J. G.	16, 335
HARVARD COLLEGE, Report on	104
A.B. degree, candidates for	104
A.B. degree, requirements in admission to candidacy for	109
A.B. degree with distinction	112
Administrative Board	109, 325
Admission, Committee on	107
Admission, rules concerning	17
Assistant Dean	111
Decrease in illness	111
Discipline	110
Losses and gains	105
S.B. degree in the College	107
Scholarships with and without stipend	112
Senior Class, continued decrease of	104
Hersey, Edmund, resignation of	199
Hyde, J. H.	48
Illness Report.	354
JEFFERSON PHYSICAL LABORATORY, Report on	244
Kühnemann, E.	42, 97
Langdell, C. C., death of	6
Langdell Hall	26, 167
LAW SCHOOL, Report on	27, 163
Appointments	327
Courses of study	164, 165
George Fisher Scholarship	167
Growth since 1870	163
Harvard graduates decreasing	166
James Coolidge Carter Loan Fund	167
Langdell Hall	167
Library	166
Portraits and cartoons of judges and lawyers	166
LAWRENCE SCIENTIFIC SCHOOL, Report on	20, 114
Administrative Board	325
Admission, rules concerning	17
Beneficiary aid under new rules	23
Degrees, subjects in which they may be granted	21
Graduate School of Applied Science	20
Growth under Professor Shaler	115
Programmes abolished	23

	PAGE
LAWRENCE SCIENTIFIC SCHOOL. — Concluded.	
Registration statistics	114
Reorganization	102, 117
LIBRARY, Report on	33, 201
Accessions	205
Admission to the book-stack	212
Bôcher, F., library of	203
Catalogue department	215
Finances	219
Gore Hall, enlargement of	201
Hohenzollern Collection	221
Library of Congress, cards	217
Loans to and from other libraries	204
Molière Collection	203
Open reading-room collections	212
Ordering department	218
Philosophical Department library	210
Radcliffe College, use of books by	213
Shelf department	213
Social Ethics library	210
Special catalogues of various libraries	204
Special reference libraries	209
Sunday use of reading-room	213
Use of books in College Library	210
Visiting Committee	201
Lodgings, comparative table of	50
Marmion, R. A., Medical Director, U. S. N.	171
MEDICAL SCHOOL, Report on	27, 171
Administrative Board	171, 331
Alumni Fund	189
Anatomy	171
Anatomy, Comparative	173
Appointments	338
Appointments in the matter of the dedication of the new buildings	170
Bacteriology	175
Case method in medical teaching	31
Clinical laboratory	163
Chemistry, Biological	174
Courses of Instruction	184
Courses open to Special Students	29
Dedication of the new buildings	37
Degrees, number granted	168
Elective courses	168, 185
Endowments	29
Examination statistics	190, 191
Hygiene	183
Museum, Warren Anatomical	183
Neurology	183
Orthopedic surgery	181
Pathology	176
Pathology, Comparative	178
Pathology, Surgical	181
Pharmacology and Therapeutics	179
Physiology	173
Registration statistics	186
Scholarships and fellowships	183

MEDICAL SCHOOL. — Concluded.	
Special Students	168
Summer courses	186-189
Surgery and Clinical Surgery	179
MEDICAL VISITOR, Report of	354
MEDICINE, FACULTY OF, Report on	168
Mid-Year Degrees	12
MINERALOGICAL MUSEUM AND LABORATORIES OF MINERALOGY AND	
PETROGRAPHY	290
MINING AND METALLURGY, Report on	35, 233
Minot, Charles S.	30
MUSEUM OF COMPARATIVE ZOOLOGY	35, 266
New England Conservatory of Music, reciprocal work with	97
OBSERVATORY, Report on	257
Organization and Administration, Committee on	9
Ostwald, W.	42
Peabody, F. G.	42
PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY,	
Report on	36, 292
Peirce, J. M., death of	5, 131
Poland, H. T., death of	131
PREACHERS TO THE UNIVERSITY	335
PROCTORS	326
PSYCHOLOGICAL LABORATORY, Report on	251
Putnam, F. W.	36
RADCLIFFE COLLEGE, Report on	37, 311
Resident Executive Board	9, 325
RESIGNATIONS	7, 316
Richards, T. W.	24, 42
Robinson, G. W.	131
Santayana, G.	43
Scholarships and other Aids, Committee on	12
Scholarships maintained by Harvard Clubs	48
Secondary Schools, attitude toward College admission requirements	20
SEMITIC MUSEUM, Report on	301
Shaler, N. S., death of	5, 103, 118, 276
Soldier's Field	120
Sorbonne, Harvard lecturers at the	43
Stadium	121
Statutes amended	8
STILLMAN INFIRMARY	356-358
Summer School of Arts and Sciences	39, 92-97
Suzuki, Baron S.	171
Teachers, Friday Afternoon and Saturday Courses for	102
Tenney, C. D.	40
University Gazette	8
Weld Boat House, new	120
Wendell, B.	43
ZOOLOGICAL LABORATORY, Report on	271

HARVARD UNIVERSITY

TREASURER'S STATEMENT



1905-06

HARVARD UNIVERSITY

TREASURER'S STATEMENT



1905-06

CONTENTS

SUMMARIES.

Investments.	PAGE
Rate of dividing income among Funds; bond premiums repaid from income; gains and losses by changes of investments	5
Kinds, amounts and income	6
Aid to students,	6
Changes in Funds	7
Income and current expenses for Departments	8

GIFTS.

For capital	17
For immediate use	20

CAPITAL.

Investments.	
Special, of Funds invested separately	48
Total, including general investment in detail	58
Funds represented by the investments	58

TOTAL RECEIPTS AND PAYMENTS.

RECEIPTS.

Income.	
From securities	30
" real estate investments	36
" students	38
Sundries	40
Gifts for immediate use	40
Exclusive of Income.	
Gifts for capital	42
Sales of investments.	
General	42
Special	44
Sundries	46

PAYMENTS.

Total for each Department	31
For investments.	
General	43
Special	45
Sundries	47

RECEIPTS AND PAYMENTS FOR DEPARTMENTS.

Table.	PAGE
I. University (administration and general objects)	74
II. College, including Lawrence Scientific School, Graduate School of Arts and Sciences, and Graduate School of Applied Science.	
Receipts.	
Gifts for capital	78
Gifts for immediate use and income of Funds	78
Receipts from students	87
Sundries	88
Payments.	
Aid to students	89
From gifts	93
Summer Schools	94
Salaries	95
For public buildings	95
For dormitories	95
General expenses	96
III. Library	97
IV. Divinity School	100
V. Law School	102
VI. Medical School	104
VII. Dental School	109
VIII. Bussey Institution	110
IX. Arnold Arboretum	111
X. Botanic Garden and Botanic Museum	112
XI. Gray Herbarium	113
XII. Observatory	113
XIII. Museum of Comparative Zoölogy	115
XIV. Peabody Museum of American Archaeology and Ethnology	116
XV. Semitic Museum	117
XVI. Germanic Museum	118
XVII. William Hayes Fogg Art Museum	119
XVIII. Jefferson Physical Laboratory	120
XIX. Appleton Chapel	120
XX. Phillips Brooks House	121
XXI. Hemenway Gymnasium	122
XXII. Stillman Infirmary	123
XXIII. Sundry Funds for Special Purposes	124
XXIV. Construction Accounts	125
XXV. Sundry Accounts	126
Balanced Summary of the Tables	128
Certificate of the Auditing Committee of the Corporation and Overseers . .	129
Index	131

TREASURER'S STATEMENT FOR 1905-06.

TO THE BOARD OF OVERSEERS OF HARVARD COLLEGE : —

The Treasurer submits the annual statement of the financial affairs of the University, for the year ending July 31, 1906.

The net income of the general investments was divided at the rate of 4.74 per cent., except in the following cases, among the Funds and balances to which these investments belong. The exceptions are some temporary balances which were allowed lower rates of interest, and the balance called "Gains and Losses for General Investments," which, in accordance with the vote quoted below, was allowed no interest. The rate compared with that for 1904-05 shows a decrease of 0.18 per cent. The income remaining after the above division, \$1,237.78, was credited as usual to the University account.

From the income of all bonds bought at a premium for general investments \$8,554.46 was credited to the respective investment accounts, and for special investments \$856.66, as the fair yearly repayment to make good the whole of the premiums at the maturity of the bonds.

The gains amounting to \$2,447.62 during the year, from the sale of securities held as general investments, were credited to "Gains and Losses for General Investments" in accordance with the following vote of the Corporation, of October 26, 1891.

"*Voted*, that the sum of \$23,341.97 being the net gain from sales of bonds at a profit, heretofore credited to the account of Railroad Bond Premiums, be transferred as of July 31, 1891, to a new account to be called 'Gains and Losses for General Investments,' which account shall be credited with all gains and charged with all losses hereafter arising from sales of property belonging to the general investments. As this account belongs pro rata to all the Funds sharing in general investments it is not to be allowed interest when its balance is on the credit side nor to be charged with interest when its balance is on the debit side."

There were no losses to be charged to this account. Its credit balance July 31, 1906, was \$598,969.63.

The gains amounting to \$14,968.47 during the year, from the sale of property held as special investments, and the losses amounting to \$492.40, were carried to the accounts of the Funds the investments of which were sold.

Aid to students, in the form of fellowships, scholarships and loans, amounted during the year to \$130,237.49.

SUMMARY OF INVESTMENTS.

(For details, see pp. 48 and 53.)

General Investments.	Principal, Aug. 1, 1906.	Principal, July 31, 1906.	Income.
Mortgages, Notes, &c.,	\$1,850,000.00	\$1,310,000.00	\$68,525.10
Public Funds,	108,584.55	108,584.55	4,588.52
Railroad Bonds,	5,155,195.83	5,147,001.67	230,896.77
Traction Bonds,	1,183,632.58	1,584,641.14	51,317.51
Sundry Bonds,	2,041,970.90	2,340,487.61	96,468.11
Railroad Stocks,	656,962.36	1,121,817.18	35,900.50
Manufacturing and Telephone Stocks,	473,062.77	473,062.77	27,790.00
Real Estate Trust Stocks,	695,421.60	695,421.60	20,061.50
Sundry Stocks,		132,107.00	6,000.00
Real Estate,	2,298,970.21	2,424,720.45	149,722.37
Advances to			
Bussey Trust,	232,671.81	345,217.07	12,916.87
Calvin & Lucy Ellis			
Real Estate,	167.12	345.31	7.39
William Hayes Fogg Art Mu-			
seum,		98.68	
Emerson Hall,		3,368.81	
Dental School Real Estate,	34.52	87.58	
Medical School,		5,558.39	
" " Real Estate,		106.69	
" " Undertaking,	751,311.93	1,133,526.43	36,914.66
Observatory,	5,466.59	5,466.59	273.33
Peabody Museum of American			
Archaeology and Ethnology, .	1,981.04	2,117.79	89.15
Botanic Department,	8,088.11	8,990.78	404.41
Harvard Dining Association, . .	76,649.77	180,792.13	7,570.17
Randall Hall Association, . . .	32,202.27	31,202.27	1,610.13
Uriah A. Boyden Fund, . . .	3,248.78	5,785.53	
T. Jefferson Coolidge Fund, .	1,076.08		
Classical Publication Fund of the			
Class of 1856,	1,395.85	1,505.58	69.79
Woodland Hill Fund,	2,011.46	2,543.63	100.57
Stadium,	55,886.08	48,665.32	2,779.34
Sundry Accounts,	1,077.43	4,254.89	
Term Bills overdue,	57,675.59	50,966.46	
Amounts carried forward, . .	\$15,194,740.18	\$17,218,883.90	\$754,006.08

SUMMARY OF INVESTMENTS, CONTINUED.

General Investments.	Principal, Aug. 1, 1905.	Principal, July 31, 1906.	Income.
Amounts brought forward, .	\$15,194,740.18	\$17,218,883.90	\$754,006.08
Cash in Adams Trust Co.,	51,692.62		1,181.73
" American Loan and Trust Co.,			180.54
" City Trust Co.,		40,342.41	
" Equitable Trust Co.,	48,787.87	8,311.42	1,132.05
" Merchants National Bank, .	7,937.54	10,483.64	184.38
" National Shawmut Bank, . .	25,145.21	180.52	35.31
" National Union Bank, . . .	61,719.58	1,517.37	259.28
" Old Boston National Bank, .	42,858.81	29,491.67	1,596.88
" hands of Bursar,	88,217.37	40,518.71	
Totals of general investments,	\$15,471,098.68	\$17,344,239.64	\$758,526.25
Totals of special investments,	2,564,927.03	2,633,682.07	104,283.00
Totals of all investments, . .	\$18,036,025.71	\$19,977,911.71	\$862,809.25

CHANGES IN FUNDS DURING THE YEAR.

Total of Funds and balances, July 31, 1906,	\$19,977,911.71
" " " August 1, 1905,	18,036,025.71
Increase of Funds and balances during the year,	<u>\$1,941,886.00</u>

The increase results from

Gifts for capital, establishing new Funds or increasing old ones, \$1,859,298.28

Increase of Funds and balances, excluding gifts for capital.

Net increase of Funds and balances which appear at both the beginning and the end of the year, excluding the Insurance and Guaranty Fund and the Henry L. Pierce (Residuary) Fund, \$168,984.60

Increase of Funds established during the year, 5,400.73

Credit balances created, mainly by gifts for immediate use, 9,515.64

Gains by changes of investments, 17,416.09 \$201,267.06

Less decrease of Funds and balances.

Sundry balances spent, mainly of gifts for special purposes, . . . \$58,890.58

Loss by changes of investments, . 492.40

Decrease of Insurance and Guaranty Fund and Henry L. Pierce (Residuary) Fund by excess of expenditures over income in University, College and Library accounts (see p. 9), 59,296.31 118,679.29

Leaving net increase of Funds and balances, excluding gifts for capital, 82,587.77
\$1,941,886.00

INCOME AND CURRENT EXPENSES FOR DEPARTMENTS.

SUMMARIES.

These tables show briefly for each Department the income available for current expenses, the amount of such expenses, and the resulting surplus, or deficit. They are therefore summaries of only the general items in the more comprehensive and detailed tables beginning on page 74.

THE UNIVERSITY.

(See Table No. I, page 75.)

AVAILABLE FOR EXPENSES.

Income of Funds and balances,	\$68,084.75	
Gifts,	173.72	
Rents,	2,810.00	
Sales,	1,846.16	\$67,914.63

PAYMENTS.

Overseers' expenses,	\$2,249.88	
Office expenses,	20,594.59	
Salaries,	45,989.31	
Retiring allowances,	25,774.14	
Memorial Hall and Sanders Theatre,	757.72	
Peabody Museum of American Archaeology and Ethnology (part, see Table XIV, page 116),	1,248.82	
Semitic Museum (part, see Table XV, page 117),	1,778.83	
Germanic Museum (part, see Table XVI, page 118),	832.72	
William Hayes Fogg Art Museum (part, see Table XVII, page 119),	2,772.49	
Appleton Chapel (part, see Table XIX, page 120),	6,412.53	
Phillips Brooks House (part, see Table XX, page 121),	1,829.41	
General expenses,	20,223.41	129,962.84
Deficit,		\$62,048.31

THE COLLEGE, INCLUDING THE LAWRENCE SCIENTIFIC SCHOOL, THE GRADUATE SCHOOL OF ARTS AND SCIENCES, AND THE GRADUATE SCHOOL OF APPLIED SCIENCE.

(See Table No. II, page 79.)

AVAILABLE FOR EXPENSES.

Income of Funds and balances,	\$191,463.08	
Gifts,	4,270.89	
Sales,	8,560.48	
Insurance,	896.00	
Receipts from students (except tuition fees in the School for Social Workers and Gymnasium locker fees),	536,699.15	
Sundry receipts at the summer camp at Squam Lake,	11,290.42	
Amount carried forward,		\$747,678.53

THE COLLEGE, CONTINUED.

Amount available for expenses, brought forward, . . . \$747,678.52

PAYMENTS.

Salaries for instruction,	\$497,640.72	
Salaries for administration,	14,884.00	
Appropriations,	32,498.95	
Scholarships from unrestricted income,	8,610.00	
Expenses on account of public buildings,	34,719.37	
Expenses on account of dormitories,	40,906.64	
Summer Schools,	24,916.82	
Museum of Comp. Zoölogy (part, see Table XIII, p. 115),	3,877.50	
Jefferson Physical Lab. (part, see Table XVIII, p. 120),	718.11	
Hemenway Gymnasium (part, see Table XXI, p. 122),	6,306.40	
General expenses,	69,447.20	729,525.71
Surplus,		\$18,152.81

THE LIBRARY.

(See Table No. III, page 97.)

AVAILABLE FOR EXPENSES.

Income of Funds and balances,	\$31,351.71	
Gifts,	2,377.89	
Fees,	95.00	
Sales,	14.05	\$33,838.15

PAYMENTS.

Salaries,	\$17,675.00	
Services, cataloguing, administration, etc.,	18,596.56	
Services in Department Libraries,	1,235.16	
Services of purchasing agent abroad,	1,692.69	
General expenses,	10,039.65	49,289.06
Deficit,		\$15,400.91

UNIVERSITY, COLLEGE, AND LIBRARY.

COMBINED ACCOUNTS.

University deficit as above,	\$62,048.21	
Library " "	15,400.91	
	\$77,449.12	
College surplus as above,	18,152.81	
Deficit in the combined accounts,	\$59,296.31	
The deficit was paid by principal from		
Insurance and Guaranty Fund,	\$32,005.06	
Henry L. Pierce (Residuary) Fund,	27,291.25	\$59,296.31
In 1904-05 there was a deficit of	\$25,137.11	
Principal of the Insurance and Guaranty Fund, July 31, 1906,	4,000.00	
" " Henry L. Pierce (Residuary) Fund, "	178,133.71	

DIVINITY SCHOOL.
(See Table No. IV, page 100.)

AVAILABLE FOR EXPENSES.

Income of Funds and balances,	\$25,928.76	
Gifts,	1,501.40	
Sales,	57.75	
Receipts from students,	9,284.90	\$36,772.81

PAYMENTS.

Salaries for instruction,	\$32,838.85	
Salaries for administration,	1,750.00	
Books,	556.06	
General expenses,	6,848.74	41,493.65
Deficit,		<u>\$4,790.84</u>

In 1904-05 there was a deficit of \$3,085.92

The Divinity School credit balance on July 31, 1906 was \$6,864.00

LAW SCHOOL.
(See Table No. V, page 102.)

AVAILABLE FOR EXPENSES.

Income of Funds and balances,	\$32,763.34	
Sales,	119.31	
Receipts from students,	107,179.00	\$140,061.65

PAYMENTS.

Langdell Hall, construction,	\$16,530.25	
Salaries for instruction,	55,383.33	
Salaries for administration,	11,072.26	
Scholarships from unrestricted income,	6,750.00	
Books,	13,738.75	
General expenses,	11,752.28	115,226.87
Surplus,		<u>\$24,834.78</u>

In 1904-05 there was a surplus of \$41,851.22

The Law School credit-balance on July 31, 1906 was \$347,742.95

MEDICAL SCHOOL.
(See Table No. VI, page 104.)

AVAILABLE FOR EXPENSES.

Income of Funds and balances,	\$53,499.18	
Gifts,	3,700.00	
Receipts from students,	69,455.25	

Amount available for expenses, carried forward, \$126,654.43

MEDICAL SCHOOL, CONTINUED.

Amount available for expenses, brought forward, . . . \$126,654.48

PAYMENTS.

Salaries for instruction,	\$92,801.67	
Salaries for administration,	4,248.00	
Retiring allowance,	1,000.00	
Appropriations,	12,712.95	
General expenses,	28,910.77	184,068.89
Deficit,		<u>\$7,413.96</u>
In 1904-05 there was a deficit of	\$24,853.98	
The Medical School debit balance on July 31, 1906 was	\$5,553.89	

DENTAL SCHOOL.

(See Table No. VII, page 109.)

AVAILABLE FOR EXPENSES.

Income of Funds and balances,	\$1,803.08	
Fees from Infirmary,	6,105.10	
Sales,	691.70	
Receipts from students,	15,831.44	\$24,431.32

PAYMENTS.

Salaries for instruction,	\$8,775.00	
Salaries for administration,	500.00	
General expenses,	18,544.94	22,819.94
Surplus,		<u>\$1,611.88</u>

In 1904-05 there was a deficit of \$19,118.26, caused by the payment of \$20,000 from accumulated income toward the cost of the site for the proposed building. Otherwise there would have been a surplus of \$881.74
The Dental School credit balance on July 31, 1906 was \$12,958.11

BUSSEY INSTITUTION.

(See Table No. VIII, page 110.)

AVAILABLE FOR EXPENSES.

Income of Funds and balances,	\$8,415.28	
Rents,	723.87	
Sales,	174.86	
Board of animals,	4,724.49	
Horticultural Department receipts,	1,911.05	
Receipts from students,	3,570.00	\$19,519.55

PAYMENTS.

Salaries for instruction,	\$8,200.00	
Horticultural Department expenses,	1,877.48	
General expenses,	7,160.42	17,237.90
Surplus,		<u>\$2,281.65</u>

In 1904-05 there was a deficit of \$1,422.35
The Bussey Institution credit balance on July 31, 1906 was \$28,826.48

ARNOLD ARBORETUM.
(See Table No. IX, page 111.)

AVAILABLE FOR EXPENSES.

Income of Funds and balance,	\$15,012.74	
Gifts,	7,275.00	
Sales,	2,512.95	
Rent,	165.00	\$24,965.69

PAYMENTS.

Salaries,	\$3,500.00	
General expenses,	20,986.35	24,486.35
Surplus,		\$479.34

In 1904-05 there was a surplus (from gifts) of \$9,855.29
 The Arboretum Construction Gifts credit balance on
 July 31, 1906 was \$29,385.15

BOTANIC GARDEN AND BOTANIC MUSEUM.
(See Table No. X, page 112.)

AVAILABLE FOR EXPENSES.

Income of Funds,	\$4,349.87	
Gifts,	4,200.00	
Rent,	700.00	9,249.87

PAYMENTS.

Interest on debt,	\$404.41	
General expenses,	9,748.13	10,152.54
Deficit,		\$902.67

In 1904-05 there was a deficit of \$827.02
 The debt of the Botanic Garden and Botanic Museum on
 July 31, 1906 was \$8,990.78

GRAY HERBARIUM.
(See Table No. XI, page 113.)

AVAILABLE FOR EXPENSES.

Income of Funds and balance,	\$3,848.76	
Asa Gray's copyrights,	776.79	
Gifts,	5,380.00	
Sales and commissions,	2,671.96	\$12,177.51

PAYMENTS.

Salaries,	\$4,308.33	
General expenses,	7,016.87	11,325.20
Surplus,		\$853.31

In 1904-05 there was a deficit of \$57.38
 The Gray Herbarium credit balance on July 31, 1906 was \$1,734.70

OBSERVATORY.
(See Table No. XII, page 113.)

AVAILABLE FOR EXPENSES.

Income of Funds,	\$31,517.18	
Appropriation from Fund for the Advancement of Astro- nomical Science (1902),	2,100.77	
Gifts,	5,500.00	
Rent,	600.00	
Sales,	235.09	\$39,953.04

PAYMENTS.

Salaries,	\$17,100.00	
Services,	7,156.11	
Interest on debt,	273.33	
General expenses,	15,423.60	39,953.04
In 1904-05 there was a deficit of	\$13.07	
The debt of the Observatory on July 31, 1906 was . . .	\$5,466.59	

MUSEUM OF COMPARATIVE ZOOLOGY.
(See Table No. XIII, page 115.)

AVAILABLE FOR EXPENSES.

Income of Funds and balance,	\$39,295.23	
Use of lecture room,	700.00	
Sales,	580.62	
Gifts,	5,000.00	\$35,575.85

PAYMENTS.

Salaries,	\$10,475.00	
General expenses,	25,570.15	
	\$36,045.15	
Less the amount which was paid from College income (see Table No. I, page 94),	3,877.50	32,167.65
Surplus,		\$3,408.20
In 1904-05 there was a surplus of	\$4,151.59	
The Museum of Comparative Zoölogy credit balance on July 31, 1906 was	\$35,714.52	

**PEABODY MUSEUM
OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY.**
(See Table No. XIV, page 116.)

AVAILABLE FOR EXPENSES.

Income of Funds,	\$6,451.37	
Gifts,	625.00	
Use of heating plant,	75.00	\$7,151.37

PAYMENTS.

Salary of Peabody Professor and Curator,	\$2,422.15	
Interest on debt,	89.15	
General expenses,	6,025.14	
	<u>\$8,536.44</u>	

Less the amount which was paid from University income (see Table No. I, page 77),	1,248.32	7,288.12
Deficit,		<u>\$136.75</u>

In 1904-05 there was a surplus, which was applied toward
the payment of the debt, of \$60.62
The debt of the Peabody Museum of American Archae-
ology and Ethnology on July 31, 1906 was \$2,117.79

SEMITIC MUSEUM.

(See Table No. XV, page 117.)

AVAILABLE FOR EXPENSES, **Nothing.**

PAYMENTS.

Salary of Curator,	\$500.00	
General expenses,	1,278.83	
Deficit, which was paid from University income (see Table No. I, page 77),	<u>\$1,778.83</u>	
In 1904-05 there was a deficit of	\$1,590.84	

GERMANIC MUSEUM.

(See Table No. XVI, page 118.)

AVAILABLE FOR EXPENSES.

Income of Funds,	\$318.24	
Gift,	200.00	
	<u>\$518.24</u>	

PAYMENTS.

General expenses,	\$350.96	
Deficit, which was paid from University income (see Table No. I, page 77),	<u>\$332.72</u>	
In 1904-05 there was a deficit of	\$365.48	

WILLIAM HAYES FOGG ART MUSEUM.

(See Table No. XVII, page 119.)

AVAILABLE FOR EXPENSES.

Income of Funds and balance,	\$2,392.52	
Sales,	9.60	\$2,402.12

PAYMENTS.

Salary of Curator,	\$500.00	
General expenses,	5,243.48	
	<u>\$5,743.48</u>	
Less the amount which was paid from University income (see Table No. I, page 77),	2,772.49	2,970.99
Deficit,		<u>\$568.87</u>
In 1904-05 there was a surplus of	\$366.66	
The William Hayes Fogg Art Museum debit balance on July 31, 1906 was	\$93.68	

JEFFERSON PHYSICAL LABORATORY.

(See Table No. XVIII, page 120.)

AVAILABLE FOR EXPENSES.

Income of Funds and balance,	\$3,653.92
--	------------

PAYMENTS.

General expenses,	\$4,524.54	
Less the amount which was paid from College income (see Table No. II, page 94),	718.11	3,806.43
Deficit,		<u>\$152.51</u>
In 1904-05 there was a surplus of	\$383.54	
The Jefferson Physical Laboratory credit balance on July 31, 1906 was	\$1,934.53	

APPLETON CHAPEL.

(See Table No. XIX, page 120.)

AVAILABLE FOR EXPENSES.

Income of Funds,	\$2,419.01
----------------------------	------------

PAYMENTS.

Preaching and morning services,	\$3,207.95	
Salaries of administrator, organist, and choir-master, . .	2,400.00	
General expenses,	3,223.59	8,831.54
Deficit, which was paid from University income (see Table No. 1, page 77),		<u>\$6,412.53</u>
In 1904-05 there was a deficit of	\$6,425.20	

PHILLIPS BROOKS HOUSE.
(See Table No. XX, page 121.)

AVAILABLE FOR EXPENSES.

Income of Funds, \$1,255.22

PAYMENTS.

Salary of Secretary, \$500.00
General expenses, 2,584.63 3,084.63

Deficit, which was paid from University income
(see Table No. I, page 77), \$1,829.41

In 1904-05 there was a deficit of \$2,123.00

HEMENWAY GYMNASIUM.
(See Table No. XXI, page 122.)

AVAILABLE FOR EXPENSES.

Fees for the use of the Gymnasium, \$168.12
Fees for the use of Gymnasium lockers, 2,959.00 \$3,127.12

PAYMENTS.

Salaries, \$5,000.00
General expenses, 6,122.09

\$11,122.09

Less the following items:—

Amount paid from Divinity School income
(see Table No. IV, page 102), \$82.86

Amount paid from Law School income (see
Table No. V, page 104), 1,605.71 1,688.57 9,433.32

Deficit, which was paid from College income (see
Table No. II, page 94), \$6,306.40

In 1904-05 there was a deficit of \$7,869.59

STILLMAN INFIRMARY.
(See Table No. XXII, page 123.)

AVAILABLE FOR EXPENSES.

Income of Funds and balances, \$4,260.65
Annual fees, 14,204.00
Receipts from patients, 4,727.48 \$23,192.13

PAYMENTS.

Services—administration, nursing, etc., \$6,183.67
Other expenses, 14,073.64 20,257.31

Surplus, \$2,934.82

In 1904-05 there was a surplus of \$6,373.30

GIFTS.

FOR CAPITAL.

ESTABLISHING NEW FUNDS OR INCREASING OLD ONES.

From an anonymous giver, \$10,000, to establish a fund the income of which is to be used in the Medical School for an Instructorship in the Department of Theory and Practice.

For the Arnold Arboretum Fund, from

Caleb Chase	\$100
Henry P. Curtis	10
H. C. Ernst	20
Robert H. Gardiner	25
B. F. Keith	130
Massachusetts Society for Promoting Agriculture . .	500
A. Shuman	100
	<u>\$885</u>

From the estate of Francis Skinner, \$20,000, to be applied to the maintenance of the Arnold Arboretum.

From the estate of Daniel Austin, \$1,576.86, the balance, with interest, of his legacy of \$7,000 to Harvard College.

From the estate of Daniel Austin, \$225.26, the balance, with interest, of his legacy of \$1,000 to the Divinity School.

From the estate of William H. Baldwin, Jr., \$1,905, the balance of his unrestricted bequest of \$2,000 to Harvard College after paying the New York State Inheritance Tax.

From Mrs. William H. Baldwin, Jr., \$95, to replace that amount paid as the New York State Inheritance Tax on her husband's bequest of \$2,000.

From Mrs. William S. Bullard and her children, \$50,000, to establish the Bullard Professorship of Neuropathology, in memory of William Story Bullard.

From the estate of James C. Carter, \$100,000, with a preference, but not a direction, that it shall be "applied in the establishment and maintenance in the Law School of the University of a professorship of General Jurisprudence for the especial cultivation and teaching of the distinctions between the provinces of the written and unwritten law"; and \$100,000 for the general purposes of Harvard University.

From the Class of 1846, \$130.02, in final payment of the balance of its Class Fund, which is to be held as "The Fund of the Class of 1846" until the death of the last surviving member of the Class, and then to be added to the Francis James Child Memorial Fund.

From the Class of 1881, \$3,500, to establish a fund "the income of which shall be expended for the purchase of books for the library of the Division of Chemistry, the money to be spent under the direction of the Director of the Chemical Laboratory."

From members of the Class of 1881, on the twenty-fifth anniversary of their graduation, \$88,570, which, with "the sums pledged, when . . . paid, shall . . . be known as the 'Twenty-fifth Anniversary Fund of the Class of 1881.' The use of the income of this fund is to be unrestricted."

From the Class of 1885, \$5,588.96, "as a memorial of their deceased classmate, William Henry Baldwin, Jr." This gift is to be held as a permanent fund and known and designated as the "William H. Baldwin Jr. 1885 Fund"; the income thereof is to be used for "the expenses of the publishing by the Department of Economics of Essays on Economic Subjects by students of that Department," and any surplus not needed for that purpose is to be "expended for the purchase and care by the College Library of books and periodicals on economic, political, historical or educational subjects in the order named."

From George F. Fabyan, \$75,000, to be added to the George Fabyan Fund in the Medical School, the whole to be called the "George Fabyan Foundation for Comparative Pathology."

From the estate of Richard W. Foster, \$12,500, the balance of his bequest of \$25,000, unrestricted as to both principal and income.

From Henry L. Higginson, \$20,000, an unrestricted gift for the general purposes of the University.

From two anonymous givers, securities valued at \$175,000, to be sold under stated conditions and the proceeds to be added to the Nelson Robinson Jr. Fund.

From Frederick Le Roy Sargent, \$50, to be added to the Francis James Child Memorial Fund.

From Robert W. Sayles, \$5,000, to establish a fund the income of which "is to be expended under the direction of the Department of Geology and Geography or of the Curator of the Geological Section of the University Museum, at Cambridge, Mass., preferably for the acquisition, preparation, and maintenance of collections suitable for a museum of geology."

For the Teachers' Endowment Fund, \$1,043,040.93, and securities valued at \$60,000, from three hundred and forty-nine contributors.

From the estate of Jerome Wheelock, \$10, the third payment of that amount for establishing the Jerome Wheelock Fund of \$100,000.

"As the beginning of a fund for the maintenance of the Germanic Museum, to be called the Emperor William Fund, in honor of the German Emperor, and especially to celebrate the twenty-fifth anniversary of His Majesty's wedding," from

Alexander Agassiz	\$1,000	Amount brought forward . .	\$13,960
James Barr Ames	500	Gardiner M. Lane	250
Anonymous	500	William Lawrence	100
Anonymous	500	E. D. Leavitt	10
Mrs. Henry P. Bowditch . . .	100	Miss Margaret A. Leavitt . .	10
Alvin Carl	10	T. K. Lothrop	200
Heinrich Conried	500	Mrs. Natalie Nixdorff	25
W. Murray Crane	500	Mrs. John C. Phillips	100
Ellis L. Dresel	50	Hugo Reisinger	50
Charles Ehlermann	100	J. G. Rosengarten	100
George Ehret	500	A. Lawrence Rotch	100
Arthur F. Estabrook	500	Edward Ruhl	25
Frederick P. Fish	1,000	Mortimer L. Schiff	1,000
Germanische Gesellschaft . . .	50	Carl Schurz	50
John Hays Hammond	100	Mrs. Gideon Scull	50
Mrs. J. H. Hecht	250	A. Shuman	100
H. V. Hilprecht	25	Hermann Sielken	1,000
Otto H. Kahn	5,000	Augustus H. Vogel	100
Charles H. Keep	100	Felix M. Warburg	1,000
David P. Kimball	2,500	Paul M. Warburg	1,000
Antonio Knauth	25	Walter Wesselhoeft	50
Knauth, Nachod & Kuhne . . .	100	Mrs. Walter Wesselhoeft . . .	10
Mrs. Percival Knauth	25	John M. Wulfang	25
Hugo A. Koehler	25		
Amount carried forward . .	\$13,960		\$13,915

From the Trustee under the will of George H. Emerson, securities valued at \$20,656.20, on account of the principal of

Mr. Emerson's residuary bequest, the income thereof to be used for four scholarships for graduates of the Departments of Zoölogy, Geology, Mineralogy, and Chemistry in the Lawrence Scientific School.

From Charles F. McKim, \$20,000, to endow the Julia Amory Appleton Travelling Fellowship in Architecture, established in June, 1904, in accordance with his offer to provide annually one thousand dollars for that fellowship.

From the estate of Miss Eliza W. S. Parkman, \$10,000, to establish, in memory of her brother, the "Francis Parkman Fellowship," the income thereof to be applied "to the aid of meritorious students, pursuing advanced studies, whether at the University or elsewhere."

From Miss Frances A. L. Haven, \$12,000, to establish, in memory of James Coolidge Carter, the "James Coolidge Carter Loan Fund" in the Law School.

From Charles J. Hughes, Jr., \$750, to be added to the Hughes Loan Fund for the benefit of students in the Law School.

From Mrs. Sarah C. Fisher Wellington, \$3,500, to establish in the Law School the George Fisher Scholarship, "in memory and in honor of my father, George Fisher."

The total amount of these gifts for capital account is \$1,859,298.23, as stated also on page 42.

FOR IMMEDIATE USE.

From an anonymous giver, \$40, for expenses in connection with the meeting of the Committee on the Publication of Academic Distinctions.

From two anonymous givers, \$50, for a lecture by Professor Kühnemann.

From an anonymous giver, \$1,125, to be added to income used for salaries.

From Barrett Wendell, \$250, to be devoted to certain extra instruction in the Department of English in 1906-07.

From the estate of Mrs. Mary Hemenway, \$500, toward the salary of the Instructor in Central American Archaeology.

From Theodore Lyman, \$150, for the salary of an Assistant in Physics.

For the Department of Mining and Metallurgy, to aid instructors and assistants to visit mines and metallurgical establishments at a distance, and to secure lecturers on special subjects, from

Edgar C. Felton	\$150	Amount brought forward . .	\$850
John Hays Hammond	250	Charles P. Perin	150
Albert F. Holden	150	Quincy A. Shaw, Jr.	150
Hennen Jennings	150	Frank H. Taylor	150
R. Alexander F. Penrose, Jr. . .	150	Benjamin B. Thayer	150
Amount carried forward . .	\$850		\$1,450

From James J. Storrow, \$790.76, for use at the summer camp at Squam Lake.

From Henry L. Shattuck, \$50, toward the general expenses of undergraduate instruction in Harvard College.

From Edwin H. Abbot, \$200, in accordance with the terms of his letter of gift, to be added to the income of the Teachers' Endowment Fund.

From James H. Hyde, \$600, for the Fellowship of the Cercle Français de l'Université Harvard for 1905-06.

From Charles F. McKim, \$1,000, for the Julia Amory Appleton Travelling Fellowship in Architecture for 1905-06.

From the Inter-Municipal Committee on Household Research, \$350, towards the Fellowship of the Inter-Municipal Committee on Household Research for 1905-06.

For the South End House Fellowship, from

Julian L. Coolidge	\$100
William A. Dupee	25
Edward W. Grew	25
Randolph C. Grew	100
Edward J. Holmes	100
Herbert Lyman	20
	<u>\$370</u>

From an anonymous giver, \$100, to be used in the same way as the income of Scholarship Funds is used.

From Mrs. C. M. Barnard, \$600, her twenty-third yearly gift for the Warren H. Cudworth Scholarships.

From the Harvard Club of Buffalo, \$200, for the Scholarship of the Harvard Club of Buffalo for 1905-06.

From the Harvard Club of Chicago, \$300, for the Scholarship of the Harvard Club of Chicago for 1905-06.

From the Harvard Club of San Francisco, \$450, for the Scholarship of the Harvard Club of San Francisco for 1905-06.

From the Harvard Club of St. Louis, \$300, for the Scholarship of the Harvard Club of St. Louis for 1905-06.

From Edward S. Drown, \$25, to aid a needy student.

From the Lawrence Scientific School Association, \$150, for a Scholarship in Engineering in the summer of 1906.

From Warren Delano, Jr., \$250, for a loan scholarship for 1906-07 in the Graduate School of Applied Science.

From Edward Dyer Peters, \$250, for a Scholarship in Mining and Metallurgy for 1906-07 in the Graduate School of Applied Science.

From Mrs. Sarah C. Fisher Wellington, \$51, to be added to the income of her gift of \$3,500, establishing the George Fisher Scholarship in the Law School, so that this scholarship may be awarded in October, 1906.

From an anonymous giver, \$350, for the Ricardo Prize Scholarship for 1906-07.

Through A. Lawrence Lowell, \$250, as a prize for an essay in the Department of History and Government.

For the purchase of books for the College Library, from

Anonymous	\$3.25
Anonymous, for books on English literature of the seven- teenth and eighteenth centuries	10
Anonymous, for books on English literature of the seven- teenth and eighteenth centuries	20
Anonymous, for books on Dutch history	1,000
Francis R. Appleton, for books on English literature of the seventeenth and eighteenth centuries	250
Hiram Bingham, for books on South America	25
Francis Stanton Blake, for books on English literature of the eighteenth century	250
I. Tucker Burr, for books on Economics	50.00
Alexander Cochrane, for books on Scottish history	1,250
Archibald Cary Coolidge	4,646.19
Harold J. Coolidge, for books on China	50
Ernest B. Dane, for books in English Literature	500
Dante Society, for books for the Dante Collection	150
Ellis L. Dresel, for books on German Drama	50
George H. Earle, Jr., for books on Economics	50
Blair Fairchild, for books on Paris	25
Amount carried forward,	\$8,328.44

Amount brought forward,	\$8,328.44
James Loeb, for the purchase and binding of labor periodicals	100
Edwin V. Morgan, for books on Corea	8.14
Edwin Stanton Mullins, for books on folk-lore	50
William Phillips, for books on London	100
F. W. Taussig, for books on the earlier literature of Economics	25
John E. Thayer, for books on Economics	50
Charles G. Washburn, for books on the earlier literature of Economics	50
Edgar H. Wells, for books on English literature of the seventeenth and eighteenth centuries	25.80
	<u>\$8,787.38</u>

From Mrs. George A. Nickerson, \$200, her third yearly gift in memory of her husband, George Augustus Nickerson, A.B. 1876, LL.B. 1879, for the purchase of books on folk-lore, for the College Library.

From the Treasurer of the Phormio Fund, \$63.11, towards the cost of a copy of the first edition of the Plays of Aristophanes.

From Dudley L. Pickman, \$50, for the purchase of reprints of Contributions from the Zoölogical Laboratory.

From Arthur T. Lyman, \$250, for charts, maps, etc., for the Department of Economics.

From members of the Class of 1879, \$200, for the Department of Economics, to purchase books for the working library founded by this Class.

Through John F. Moors, \$123.39, for the library of the Department of Education.

From the Division of Mathematics, \$15, for the library of the Department of Mathematics.

From Reginald C. Robbins, \$4,000, for the purchase of books for a Philosophical Library in Emerson Hall.

From the Society for Promoting Theological Education, \$1,501.40, "for the purchase of books for the Library of the Divinity School, and for the administration of said Library."

From Mrs. James Munson Barnard, \$2,000, for the purchase of books for the Law School Library.

From Archibald Cary Coolidge, \$1,692.69, for the College Library, to provide special assistance, including the services of a purchasing agent in Europe.

From Mrs. G. H. Shaw, \$1,000, for special services in the College Library.

From K. G. T. Webster, \$47, to cover the expense of keeping the libraries in Warren House open in the evening from May first to the end of the term.

For the salary of a librarian for the library of the Division of Music and for books, from

Percy L. Atherton	\$10	Amount brought forward . . .	\$55
W. K. Brice	25	H. A. Lamb	15
F. S. Converse	10	Philip L. Spalding	5
Ernest O. Hiler	5	Walter R. Spalding	5
Edward B. Hill	5		\$80
Amount carried forward	\$55		

From members of the Class of 1872, \$173.72, to pay for changes in the clock in the tower of Memorial Hall.

From Mr. and Mrs. Nelson Robinson, \$2,500, for the additional equipment of Nelson Robinson Jr. Hall.

From Mrs. Henry Draper, of New York, \$10,000 additional, to be spent by the Director of the Observatory in prosecuting the researches in the photography of stellar spectra with which the late Dr. Henry Draper's name is honorably associated.

From E. C. Pickering, \$5,500, to be added to the unrestricted income of the Observatory.

For the Museum of Classical Archaeology, from

Henry B. Chapin	\$100
Mrs. Schuyler Van Rensselaer	200
	\$300

From Edwin F. Atkins, \$1,000, additional, for "the study of the improvement of sugar-cane and other tropical plants," for further plant collections and for travelling expenses connected therewith.

For the Botanic Garden and the Botanic Museum, from

Anonymous	\$500
Anonymous	1,000
Arthur F. Estabrook	1,000
Walter Hunnewell	1,000
Mrs. Henry Lee	500
Thomas E. Proctor	200
	\$4,200

For the Gray Herbarium, from

R. L. Agassiz	\$10	Amount brought forward . .	\$2,705
James Barr Ames	10	Mrs. Francis C. Foster	10
Miss Mary S. Ames	10	Miss Harriet E. Freeman . . .	10
Anonymous	10	Miss C. A. French	10
Anonymous	25	Robert H. Gardiner	10
Anonymous	150	George A. Goddard	10
Anonymous	2,000	Miss Harriet Gray	10
Howard P. Arnold	25	Mrs. H. S. Grew	10
Walter C. Baylies	10	T. W. H.	10
A. C. Bent	10	George W. Hammond	20
Mrs. Arthur W. Blake	10	Augustus Hemenway	10
William P. Blake	10	Miss Clara Hemenway	10
Miss M. E. Blatchford	5	Miss A. P. Henschman	10
James C. Brame	5	J. P. B. Henshaw	10
Mrs. J. L. Bremer	10	T. W. Higginson	5
Joseph Brewer	10	Mr. and Mrs. R. C. Hooper . .	20
William Brewster	10	Miss Katharine Horsford . . .	25
Addison Brown	10	Clement S. Houghton	10
Stephen Bullard	10	Henry S. Howe	10
Allston Burr	10	Mrs. Arthur Hunnewell	100
E. S. C.	10	Henry S. Hunnewell	10
Mrs. James B. Case	50	Walter Hunnewell	10
Charles F. Choate	10	William A. Jeffries	10
Miss Cora H. Clarke	10	Bernard Jenney	10
Miss Louise H. Coburn	10	B. M. Jones	10
Mr. and Mrs. James M. Codman	10	George G. Kennedy	500
Miss Helen Collamore	10	Charles A. Kidder	25
Mrs. Charles A. Cummings . .	10	David P. Kimball	10
Charles P. Curtis	10	Mrs. David P. Kimball	10
Mrs. Charles P. Curtis	10	H. H. Kimball	10
Henry P. Curtis	10	L. C. Kimball, Jr.	10
Mrs. James F. Curtis	5	The Misses Kimball	20
Louis Curtis	10	Mrs. Harriet M. Laughlin . . .	10
Samuel B. Dana	10	George C. Lee	10
Frank A. Day	25	Joseph R. Leeson	200
Walter Deane	15	George V. Leverett	25
George Dexter	10	Mrs. George Linder	10
William S. Dexter	10	Miss Katharine P. Loring . . .	10
William Endicott	10	Miss Louisa P. Loring	10
William Endicott, Jr.	10	William Caleb Loring	10
William Farnsworth	25	Mrs. T. K. Lothrop	10
J. S. Fay, Jr.	25	Mrs. George G. Lowell	10
Mrs. J. N. Fiske	10	Arthur T. Lyman	10
S. W. Fletcher	10	Haslett McKim	10
Francis B. Forbes	10	Mrs. Gilbert N. McMillan . . .	10
Francis A. Foster	10	Miss E. F. Mason	10
Francis C. Foster	10	Miss Fanny P. Mason	10
Amount carried forward . .	\$2,705	Amount carried forward . .	\$4,005

Amount brought forward . . \$4,005		Amount brought forward . . \$4,385	
Charles Merriam	10	Mrs. G. H. Shaw	10
Miss Susan Minns	50	Mrs. Quincy A. Shaw	20
Mrs. S. T. Morse	10	David N. Skillings	10
Nathaniel C. Nash	10	Francis Skinner	10
Grenville H. Norcross	10	Francis P. Sprague	10
Mrs. Otis Norcross	10	Nathaniel H. Stone	10
Mrs. Otis Norcross, Jr.	10	John E. Thayer	200
Peder Olsen	10	Charles H. Tweed	10
Mrs. Henrietta Page	25	B. Vaughan	10
Miss Mary R. Peabody	10	Miss Cornelia Warren	10
Mrs. J. C. Phillips	25	Samuel D. Warren	10
Henry Pickering	10	Benjamin M. Watson	10
Mrs. Henry Pickering	10	Frank G. Webster	20
Mrs. D. L. Pickman	10	Mrs. Frank G. Webster	20
David Pingree	10	Mrs. Charles W. Welch	10
Laban Pratt	10	S. M. Weld	25
Mr. and Mrs. George Putnam	25	Mrs. Charles T. White	10
Miss Elizabeth C. Putnam	5	George R. White	200
Miss Sarah E. Read	10	S. B. Whiting	10
Mrs. William Howell Reed	10	George Wigglesworth	10
George E. Richards	10	Miss Adelia C. Williams	10
Samuel W. Rodman	10	Emile F. Williams	100
Denman W. Ross	10	John D. Williams	20
Mrs. M. Dennian Ross	10	Moses Williams	100
Mrs. Waldo O. Ross	10	Ralph B. Williams	100
J. E. Rothwell	10	Samuel H. Winkley	10
Mrs. R. S. Russell	10	Mrs. Charlotte F. Woodman	10
George O. Sears	10	Miss Mary Woodman	10
Mrs. K. W. Sears	10	John G. Wright	10
Francis Shaw	10		
Amount carried forward . . \$4,885		\$5,390	

For the Peabody Museum of American Archaeology and Ethnology, from

A friend	\$100
Mrs. N. E. Baylies	25
Clarence B. Moore	500
	<u>\$625</u>

From a graduate of the University, \$416.66, the first instalment on account of his offer of \$15,000 towards the expenses of the South American Expedition undertaken by the Peabody Museum of American Archaeology and Ethnology.

From an anonymous giver, \$200, to provide for opening the Germanic Museum on Sunday and Thursday afternoons.

From Alexander Cochrane, \$500, for the Germanic Museum.

From Jacob H. Schiff, \$1,593.56, toward the purchase of the J. Rendel Harris collection of Syriac manuscripts for the Semitic Museum.

For the purchase of collections for the Semitic Museum, from

Jacob E. Ackerman	\$10	Amount brought forward . .	\$2,260
Abraham Asher	10	Abraham Koshland	50
Mrs. J. B. Ames	50	Jesse Koshland	50
N. L. Amster	25	Joseph Koshland	50
Solomon Bacharach	10	Simon L. Lehrburger	10
Louis Baer	25	Adolph Leve	5
William A. Bancroft	25	Harry Liebmann	20
Robert Batcheller	25	Joseph H. Liebmann	10
Gabriel Beekman	5	Alfred N. Luchs	5
William Bloom	10	Arthur T. Lyman	100
Mr. and Mrs. Louis D. Brandeis	25	George S. Mandell	25
E. S. C.	200	Robert S. Morison	10
David H. De Boer	10	Godfrey Morse	20
Lemuel E. Demelman	5	Julius C. Morse	10
Carl Dreyfus	10	Moses M. Morse	5
Jacob Dreyfus & Sons	25	John Wells Morse	100
Albert Eisemann	50	Henry W. Peabody	100
Julius Eisemann	50	The Misses Peabody	50
Ludwig Eisemann	20	J. Peavy & Brothers	25
Nathan Eisemann	20	Isidor Phillips	5
David A. Ellis	25	Mrs. Henry Pickering	500
A. F. Estabrook	100	Lehman Pickert	10
Abraham L. Fishel	5	H. L. Rice	25
Mrs. W. Scott Fitz	100	Samuel Rosenberg	25
Mrs. Francis C. Foster	300	Jacob H. Schiff	5,000
Daniel Frank	25	A. Shuman & Co.	50
S. Frank Frankenstein	5	Sidney E. Shuman	10
A friend	25	E. W. Stix	5
Simon Goldsmith	25	Ferdinand Strauss	25
Edward S. Goulston	5	Louis Strauss	25
Mrs. Henry S. Grew	200	Charles B. Strecker	25
Mrs. Jacob H. Hecht	100	S. L. Swarts	10
Louis Hecht, Jr.	25	Felix Tausig	10
Simon E. Hecht	10	Felix Vorenberg	10
Summit L. Hecht	50	Simon Vorenberg	10
Jacob Heilborn	10	Charles Weil	25
Joseph M. Herman	25	Isaac Weil	10
Louis Hyneman	10	Asher A. White	5
Carl J. Kaffenburgh	5	William Whitman	100
Isaac Kaffenburgh	50	George Wigglesworth	200
Mr. and Mrs. David P. Kimball	450	Bernard M. Wolf	25
The Misses Kimball	100	Mrs. Henry Woods	1,000
Amount carried forward . .	\$2,260		\$10,015

From William Barbour, \$5,000, for the Museum of Comparative Zoölogy.

Through Thomas Dwight, \$360, for original investigation in the Department of Anatomy.

From an anonymous giver, \$500, for salaries of Instructors in the Department of Anthropology.

From W. H. Walker, \$500, to be spent under the direction of Professor Harold C. Ernst for the Bacteriological Laboratory.

From Mrs. Hartman Kuhn, \$1,000, for salaries in the Department of Biological Chemistry.

For the equipment of the laboratory for Biological Chemistry, from

Arthur T. Cabot	\$650
Mrs. Hartman Kuhn	650
	<u>\$1,300</u>

From John E. Thayer, \$500, for the Bermuda Biological Station for Research.

From an anonymous giver, \$250, for the salary of a secretary for the Caroline Brewer Croft Cancer Committee.

From Charles S. Minot, \$30, for specimens for the Embryological Laboratory.

From Miss Katherine E. Bullard and William N. Bullard, \$500 each, their fourth gifts of the same amount, to be used under the direction of the Shattuck Professor of Pathological Anatomy, with the approval of the President and Fellows, for the purpose of advancing the knowledge of the pathology of the nervous system.

From James J. Putnam and Moorfield Storey, trustees, \$500, for a salary and for expenses in the Department of Neuropathology.

For the library of the Department of Pathology, from

Charles L. Bauscher	\$100
J. A. Lowell Blake	100
John B. Gerrish	100
Miss Mollie C. Maxwell	25
Henry F. Sears	500
	<u>\$825</u>

From John C. Phillips, \$500, for the Department of Pathology.

From Morrill Wyman, \$1,000, for research in the Department of Pathology.

From the estate of Mrs. Mary Hemenway, \$200, to be used in the Department of Physiology under the direction of Professor W. T. Porter.

From Francis Stanton Blake, \$100, for the Surgical Laboratory.

From an anonymous giver, \$50, toward the expenses in the Department of Theory and Practice in the Medical School.

From Robert Winsor, \$1,250, for the payment of a salary in the Medical School.

For the Medical School Undertaking, from J. Pierpont Morgan, \$249,000 additional, on account of his offer for the erection of three Halls in memory of his father, Junius Spencer Morgan.

For the purchase of land, the erection of buildings, or the endowment of education and research, for the benefit of the Dental School, from

Mrs. W. W. Blackmar	\$100	Amount brought forward	\$2,500
Shepherd Brooks	1,000	Mr. and Mrs. Henry Pickering	1,000
T. Jefferson Coolidge	500	Seventy-one anonymous	
T. Jefferson Coolidge, Jr.	500	givers, additions to the	
William S. Dexter	200	Harvard Dental Alumni	
John T. Morse, Jr.	200	Fund amounting to	1,614.81
Amount carried forward	\$2,500		\$5,114.81

For construction expenses at the Arnold Arboretum, from

A. S. Bigelow	\$100
Frank A. Day	100
Mrs. Mabel H. Slater	100
Charles E. Stratton	100
Bayard Thayer	5,000
George R. White	500
	<u>\$5,900</u>

From the Massachusetts Society for Promoting Agriculture, \$1,375, "to be expended at the Arnold Arboretum by the Director, to increase the knowledge of trees."

From the Committee on the Regulation of Athletic Sports, \$10,000, to be added to its previous gifts for improvements upon, and additions to, The Soldier's Field, to be made by said Committee, with the approval of the Corporation.

The total amount of these gifts for immediate use is \$358,819.98, as stated also on page 40.

CHARLES F. ADAMS, 2D, *Treasurer.*

Boston, October 31, 1906.

*General Statement of Receipts and Disbursements
for the year ending*

INCOME.

Interest on notes, mortgages, advances, &c.,	\$187,815.99	
Interest on Policies of Mass. Hospital Life Insurance Co.,	849.00	
Interest on Bank Deposits.		
Deposit in Adams Trust Co.,	\$1,181.78	
" American Loan and Trust Co.,	180.54	
" City Trust Co.,	139.30	
" Equitable Trust Co.,	1,132.05	
" Merchants National Bank,	134.38	
" National Shawmut Bank,	35.31	
" National Union Bank,	259.28	
" Old Boston National Bank,	1,596.88	4,659.47
Interest on Public Funds (after deducting \$185.73 for sinking premiums).		
City of Boston 3½'s of 1920,	\$350.00	
Imperial Japanese 4½'s of 1925,	588.52	
Massachusetts 3½'s of 1913,	1,185.25	
" " " 1916,	154.15	
" " " 1935,	161.29	
" " " 1938,	129.14	
United States of Mexico 4's of 1954,	4,000.00	6,568.35
Interest on Railroad Bonds (after deducting \$4,460.35 for sinking premiums).		
Baltimore & Ohio 4's,	\$4,000.00	
" " (P. L. E. & W. V. system) Ref. 4's,	4,000.00	
" " So. Western 3½'s,	3,500.00	
Bangor & Aroostook Ref. 4's,	5,000.00	
Burlington & Mo. River in Neb. 6's,	12,714.00	
Central Vermont 4's,	1,740.00	
Chicago & Alton 4's,	1,541.66	
Chicago, Burlington & Quincy 4's,	120.00	
" " " Ill. Div. 4's,	7,977.78	
" " " 3½'s,	15,243.80	
Chicago & No. Western Gen. M. 3½'s,	3,488.23	
Chicago, Rock Island & Pacific 4's,	3,920.90	
Eastern 6's,	11,127.25	
Eastern sterling 6's,	6,678.93	
Indiana, Illinois & Iowa 4's,	4,000.00	
Kansas City, Fort Scott & Memphis 6's,	10,646.89	
Kansas City, Memphis & Birmingham Income 5's,	5,700.00	
Kansas & Missouri 5's,	2,700.00	
Lake Shore & Michigan Southern 4's,	4,000.00	
Long Island Unified 4's,	12,000.00	
Louisville & Jeffersonville Bridge 4's,	8,000.00	
Minneapolis Union 5's,	4,866.83	
Amounts carried forward,		\$132,966.27 \$149,892.81

*of the Treasurer of Harvard College,
July 31, 1906.*

EXPENSES.

Paid to account of expenses in the

University, as per Table I (page 75).

Salaries,	\$45,989.81	
Retiring Allowances,	25,774.14	
Peabody Museum of American Archaeology and Ethnology (part, see Table XIV, page 116),	1,248.82	
Semitic Museum (part, see Table XV, page 117),	1,778.82	
Germanic Museum (part, see Table XVI, p. 118),	832.72	
William Hayes Fogg Art Museum (part, see Table XVII, page 119),	2,772.49	
Appleton Chapel (part, see Table XIX, page 120),	6,412.53	
Phillips Brooks House (part, see Table XX, page 121),	1,829.41	
Other expenses,	43,825.10	\$129,962.84

College, as per Table II (page 79).

Salaries for instruction,	\$497,640.72	
Sundry salaries,	14,884.00	
Expenses on College Public Buildings, which are not valued in the Treasurer's books,	84,719.37	
Expenses on College Dormitories, which are not valued in the Treasurer's books,	40,906.64	
General expenses,	69,447.30	
Fellowships,	27,687.50	
Scholarships,	51,527.66	
Loans and other aid to students,	31,372.96	
Prizes and expenses,	3,378.40	
Museum of Comparative Zoölogy (part, see Table XIII, page 115),	3,877.50	
Jefferson Physical Laboratory (part, see Table XVIII, page 120),	718.11	
Hemenway Gymnasium (part, see Table XXI, page 122),	6,306.40	
Summer Schools,	24,916.82	
Books, from special Funds and gifts,	5,454.42	
Apparatus and expenses for research, from special Funds and gifts,	4,788.72	
Publication expenses, from special Funds and gifts,	8,934.66	
Sundry payments from special Funds and gifts,	45,938.50	
Appropriations for collections and laboratories,	32,498.95	904,998.53

Library, as per Table III (page 97).

Salaries,	\$17,675.00	
Services and wages,	21,524.41	
Books,	27,473.64	
Other expenses,	11,774.65	78,447.70

Amount carried forward, \$1,118,409.07

*General Statement of Receipts and Disbursements
for the year ending*

INCOME (continued).

Amounts brought forward, . . .	\$132,966.27	\$149,892.81
Interest on Railroad Bonds (continued).		
Missouri Pacific 5's,	5,000.00	
Montana Central 6's,	4,432.53	
New York Central & H. R. 3½'s (L. S. & M. S. Coll.),	10,500.00	
New York Central & H. R. 3½'s (M. C. Coll.),	1,190.00	
New York, New Haven & Hartford 4's,	3,875.00	
New York, Ontario & Western 4's,	7,884.18	
Northern Pacific—Great Northern Joint 4's,	18,325.00	
Oregon Short Line 5's,	4,583.03	
Oregon Short Line 4's,	4,000.00	
Pennsylvania Co. 3½'s,	2,765.00	
Pennsylvania Co. 4½'s,	1,125.00	
Richmond—Washington Co. 4's,	6,307.02	
Rutland Car Trust 4½'s,	2,250.00	
St. Louis & San Francisco Ref. 4's,	4,000.00	
St. Paul, Minneapolis & Manitoba 4's,	7,535.89	
Southern Pacific 4's,	3,875.00	
Terminal R. R. Association of St. Louis 4's,	8,000.00	
Union Pacific 4's,	18,000.00	
Wisconsin Central, Minneapolis Terminal Purchase Money M 3½'s,	1,750.00	248,363.37
Interest on Traction Bonds (after deducting \$765.82 for sinking premiums).		
Boston & Northern 4's,	6,000.00	
Interborough Rapid Transit 4's,	7,833.33	
Metropolitan West Side Elevated 4's,	4,200.00	
“ “ “ Extension 4's,	4,000.00	
Old Colony Street 5's,	6,000.00	
Public Service Corporation of New Jersey 5's,	5,000.00	
Schenectady 4½'s,	4,371.79	
Second Avenue 5's,	4,605.36	
Third Avenue 4's,	7,975.31	
United Traction & Electric Co. 5's,	2,081.82	51,517.51
Interest on Sundry Bonds (after deducting \$3,999.23 for sinking premiums).		
American Bell Telephone Co. 4's,	\$10,162.71	
American Tel. & Tel. Co. 4's,	8,000.00	
American Tel. & Tel. Co. 5's,	5,163.20	
Boston Electric Light Co. 5's,	2,306.62	
Broadway Realty Co. 5's,	10,332.03	
Butte Water Co. 5's,	250.00	
Chicago Edison Co. 5's,	4,709.60	
Amounts carried forward, . . .	\$40,924.16	\$449,774.19

*of the Treasurer of Harvard College,
July 31, 1906.*

EXPENSES (*continued*).

Amount brought forward,		\$1,118,409.07	
Divinity School, as per Table IV (page 100).			
Salaries for instruction,	\$31,718.85		
Scholarships, Exhibitions, and Prizes,	2,226.66		
Other expenses,	9,871.97	48,812.48	
Law School, as per Table V (page 102).			
Salaries for instruction,	\$55,883.33		
Librarians and assistants,	10,072.26		
Scholarships and loans,	7,575.00		
Other expenses,	26,491.08	99,521.62	
Medical School, as per Table VI (page 104).			
Salaries for instruction,	\$88,041.67		
Fees repaid to Instructors,	9,160.00		
Retiring allowance,	1,000.00		
Fellowships,	2,765.00		
Scholarships,	4,654.52		
Expenses connected with prize,	12.50		
Warren Anatomical Museum,	1,112.31		
Books, from special Funds and gifts,	949.03		
Sundry payments made from special Funds and gifts,	8,991.85		
Laboratory appropriations,	12,712.95		
Other expenses,	28,260.46	152,660.39	
Medical School Undertaking, as per Table XXIII (page 126).			
Building expenses,	\$641,235.51		
Interest on advances to real estate,	15,395.15		
Other expenses,	1,849.08	658,479.74	
Dental School, as per Table VII (page 109).			
Salaries for instruction,	\$8,550.00		
Other expenses,	15,168.28	23,718.28	
Bussey Institution, as per Table VIII (page 110).			
Salaries for instruction,	\$8,200.00		
Other expenses,	9,037.90	17,237.90	
Arnold Arboretum, as per Table IX (page 111).			
Salaries,	\$3,500.00		
Books from gifts,	3,280.18		
Other expenses,	22,386.35	29,166.53	
Botanic Garden and Botanic Museum, as per Table X (page 112).			
Services and wages,	\$437.00		
Labor,	5,057.19		
Other expenses,	5,226.15	10,720.34	
Amount carried forward,		\$2,148,726.25	

*General Statement of Receipts and Disbursements
for the year ending*

INCOME (*continued*).

Amounts brought forward, . . .		\$40,924.16	\$449,774.19
Interest on Sundry Bonds (<i>continued</i>).			
Chicago Junc. Railways & Union Stock Yards Co. 5's,	14,979.85		
Chicago Junc. Railways & Union Stock Yards Co. 4's,	4,000.00		
Detroit Edison Co. 5's,	3,569.71		
Girard Point Storage Co. 8½'s,	691.52		
Laclede Gas Light Co. 5's,	1,000.00		
Metropolitan Tel. & Tel. Co. 5's,	7,500.00		
Mexican Coal & Coke Co. 5's,	300.00		
Minneapolis General Electric Co. 5's,	4,915.26		
Montreal Light, Heat and Power Co. 4½'s,	4,466.66		
Municipal Gas & Electric Co. 4½'s,	4,500.00		
New England Tel. & Tel. Co. 6's,	7,128.95		
" " " 5's,	4,058.82		
Portland General Electric Co. 5's,	4,605.56		
Railway & Light Securities Co. 5's,	1,780.37		
St. Louis National Stock Yards Co. 4's,	5,976.39		
United States Steel Corporation 5's,	1,600.00		
Wood Worsted Mills 4½'s,	975.00	112,973.25	
Dividends on Railroad Stocks.			
Boston & Albany,	\$24.50		
Boston & Lowell,	2,880.00		
Boston & Maine,	1,380.00		
Chicago & Northwestern,	5,162.50		
Fitchburg, preferred,	1,185.00		
Great Northern, preferred,	1,648.50		
Manhattan,	4,900.00		
New York Central & Hudson River,	6,647.50		
New York, New Haven & Hartford,	3,844.00		
Northern (N. H.),	1,740.00		
Old Colony,	2,535.75		
Pennsylvania,	16,434.00		
West End Street, preferred,	208.00	48,089.75	
Dividends on Manufacturing and Telephone Stocks.			
American Telephone & Telegraph Co.,	\$12,750.00		
American Smelters' Securities Co., preferred,	10,000.00		
Amoskeag Manufacturing Co.,	1,200.00		
Brookside Mills,	175.00		
Pacific Mills,	4,160.00	28,285.00	
Dividends on Real Estate Trust Stocks.			
Barristers Hall Trust,	\$3,089.92		
Boston Real Estate Trust,	1,260.00		
Central Building Trust,	100.00		
Department Store Trust,	5,000.00		
Essex Street Trust,	3,000.00		
Amounts carried forward,		\$12,449.92	\$639,071.19

*of the Treasurer of Harvard College,
July 31, 1906.*

EXPENSES (*continued*).

Amount brought forward,		\$2,148,726.25	
Gray Herbarium, as per Table XI (page 118).			
Salaries,	\$4,808.88		
Services and wages,	2,488.18		
Other expenses,	4,578.74	11,825.20	
Observatory, as per Table XII (page 118).			
Salaries,	\$17,100.00		
Services and wages,	7,156.11		
Other expenses,	84,366.09	58,622.20	
Museum of Comparative Zoölogy, as per Table XIII (page 115).			
Salaries,	\$10,475.00		
Services and wages,	8,395.00		
Sturgis Hooper Fund, salary and expenses, . .	5,895.45		
Scholarship,	250.00		
Other expenses,	22,175.15		
	\$42,190.60		
Less amount paid from College income (see Table II, page 94),	8,877.50	38,313.10	
Peabody Museum of American Archae- ology and Ethnology, as per Table XIV (page 116).			
Peabody Professor Fund, Peabody Professor and Curator,			
	\$2,422.15		
Services and wages,	2,456.87		
Fellowships and scholarships,	1,778.19		
Other expenses,	5,191.11		
	\$11,848.82		
Less amount paid from University income (see Table I, page 77),	1,248.82	10,600.00	
Semitic Museum, as per Table XV (page 117).			
Curator,	\$500.00		
Collections,	6,781.62		
Excavations in Palestine,	1,500.00		
Other expenses,	1,278.82		
	\$10,060.44		
Less amount paid from University income (see Table I, page 77),	1,778.82	8,281.62	
Germanic Museum, as per Table XVI (page 118).			
General expenses,	\$850.96		
Less amount paid from University income (see Table I, page 77),	832.72	518.24	
Amount carried forward,		\$2,276,386.61	

*General Statement of Receipts and Disbursements
for the year ending*

INCOME (continued).

Amounts brought forward,	\$12,449.92	\$639,071.19	
Dividends on Real Estate Trust Stocks (continued).			
Hotel Trust,	62.50		
Kimball Building Trust,	2,250.00		
Municipal Real Estate Trust,	10.93		
Paddock Building Trust,	4,161.50		
Post Office Square Building Trust,	3,000.00		21,934.85
Dividends on Sundry Stocks.			
Boatmen's Bank of St. Louis,	\$517.50		
Calumet & Hecla Mining Co.,	825.00		
Laclede Gas Light Co., preferred,	1,000.00		
Massachusetts Gas Companies, preferred,	6,000.00		8,342.50
Real Estate Investments, from rents, &c., net receipts.			
Cambridge (University Houses and Lands).			
Gross receipts,	\$41,188.15		
Less Taxes,	\$6,604.40		
Insurance,	989.85		
Repairs, improvements, care, &c.,	14,620.05	22,168.80	\$19,024.85
Boston (general investments).			
Gross receipts,	\$211,287.64		
Less Taxes,	\$46,518.68		
Insurance,	4,998.74		
Repairs, improvements, care, &c.,	3,307.06		
Repaid to capital,	6,745.79	61,565.27	149,722.87
Bussey real estate.			
Gross receipts,	\$60,589.02		
Less Taxes,	\$14,590.40		
Insurance,	4,494.29		
Interest,	11,387.28		
Repairs, improvements, care, &c.,	8,091.68		
Heat and power,	4,000.78		
Repaid to capital,	1,000.00	43,564.38	17,024.64
Sundry estates (special investments).			
Gross receipts,	\$15,818.49		
Less Taxes,	\$3,880.64		
Insurance,	780.76		
Interest,	183.48		
Repairs, improvements, care, &c.,	3,288.02	7,582.85	7,735.64
Amount carried forward,			\$862,855.54

*of the Treasurer of Harvard College,
July 31, 1906.*

EXPENSES (*continued*).

Amount brought forward,		\$2,276,886.61	
William Hayes Fogg Art Museum, as per Table XVII (page 119).			
Salaries,	\$1,000.00		
Collections,	886.45		
Other expenses,	6,272.87		
	<u>\$8,159.32</u>		
Less amount paid from University income (see Table I, page 77),	2,772.49		5,886.88
Jefferson Physical Laboratory, as per Table XVIII (page 120).			
Research expenses, from Funds and gift,	\$3,186.76		
Other expenses,	4,524.54		
	<u>\$6,661.30</u>		
Less amount paid from College income (see Table II, page 94),	718.11		5,943.19
Appleton Chapel, as per Table XIX (page 120).			
Salaries,	\$5,607.95		
Choir,	1,600.00		
Other expenses,	1,628.59		
	<u>\$8,831.54</u>		
Less amount paid from University income (see Table I, page 77),	6,412.58		2,419.01
Phillips Brooks House, as per Table XX (page 121).			
Salaries,	\$700.00		
Other expenses,	2,584.68		
	<u>\$3,284.68</u>		
Less amount paid from University income (see Table I, page 77),	1,829.41		1,455.22
Hemenway Gymnasium, as per Table XXI (page 122).			
Salaries,	\$5,000.00		
Other expenses,	6,122.09		
	<u>\$11,122.09</u>		
Less the following items: —			
Paid from College income (see Table II, page 94),	\$6,806.40		
Paid from Divinity School income (see Table IV, page 102),	82.86		
Paid from Law School income (see Table V, page 104),	1,605.71	7,994.97	8,127.12
Amount carried forward,			<u>\$2,294,717.98</u>

*General Statement of Receipts and Disbursements
for the year ending*

INCOME (continued).

Amount brought forward,		\$362,855.54
Receipts from Students.		
Tuition fees, regular courses.		
College,	\$395,982.50	
Divinity School,	5,385.00	
Law School,	107,090.00	
Medical School,	53,468.75	
Dental School,	10,535.00	
Bussey Institution,	3,570.00	
School for Social Workers,	370.00	\$576,351.25
Tuition fees, Summer courses.		
College,	\$30,277.50	
Divinity School,	1,020.00	
Medical School,	9,897.00	
Dental School,	450.00	81,644.50
Laboratory fees.		
College,	\$38,972.96	
Medical School,	2,518.50	
Dental School,	4,502.44	40,993.90
Examination fees.		
College. Admission,	\$4,779.52	
Condition, make-up, and advanced standing,	2,100.00	
Doctor of Philosophy,	60.00	
Medical School,	258.00	
Dental School,	334.00	7,531.52
Graduation fees.		
College,	\$7,560.00	
Medical School,	2,280.00	9,840.00
Matriculation fees, Medical School,		875.00
Rooms in dormitories.		
College buildings,	\$92,936.03	
Less receipts from students, separately entered in Uni- versity Houses and Lands account,	15,897.50	
	\$77,038.53	
Divinity Hall,	2,872.30	79,910.83
Library fines.		
Library,	\$404.22	
Divinity School,	7.60	411.82
Amounts carried forward,		\$747,058.82 \$362,855.54

of the Treasurer of Harvard College,
July 31, 1906.

EXPENSES (*continued*).

Amount brought forward,	\$2,294,717.98	
Stillman Infirmary, as per Table XXII (page 123).		
Services and wages,	\$6,188.67	
Food and supplies,	5,969.85	
Other expenses,	8,104.29	20,257.81
Annuities from the following Funds.		
Advancement of Astronomical Science (1901), . .	\$2,460.00	
" " " " (1902), . .	648.08	
Bussey Trust,	4,000.00	
Caroline Brewer Croft,	2,263.81	
Gurney,	1,000.00	
Henry S. Nourse,	1,000.00	
Professorship of Hygiene,	3,564.57	
George Smith,	900.00	
Alexander W. Thayer,	480.00	
Charles Wilder,	1,968.00	18,279.46
Class Funds.		
Paid the Secretary of the Class of 1853, . . .	\$149.00	
Paid the Secretary of the Class of 1856, . . .	369.00	518.00
Sundry payments.		
Edward W. Codman Fund.		
Real estate in Nahant.		
Taxes,	\$112.50	
Other expenses,	5.00	\$117.50
Calvin and Lucy Ellis Fund, taxes,	123.29	
" " " Aid Fund, legal services, . . .	10.00	
Eaton Professorship Fund, legal expenses, . . .	36.25	
George H. Emerson Scholarship Fund.		
Taxes,	\$110.68	
Other expenses,	25.89	136.57
Henry Flynt Fund, legal services,	15.00	
Charles L. Hancock Fund, taxes on Chelsea real estate,	89.00	
Insurance and Guaranty Fund.		
Sewer assessment, Lucas St., Boston, . . .	\$38.48	
Less receipts,	16.80	21.68
Henry S. Nourse Fund, expenses,	21.80	
George Smith Bequest, rent of safe,	25.00	
Daniel Williams Fund, for the benefit of the Masphee and Herring Pond Indians,	810.90	
Sarah Winslow Fund, to the Minister and the Teacher at Tyngsborough, Mass.,	280.21	
Amounts carried forward,	\$1,637.30	\$2,883,772.75

General Statement of Receipts and Disbursements
for the year ending

INCOME (continued).

Amounts brought forward, \$747,058.82 \$862,855.54

Receipts from Students (continued).

Stillman Infirmary.

Annual fees,	\$14,204 00	
Receipts from patients,	4,727.48	18,931.48

Use of Microscopes.

Medical School,	\$288.00	
Dental School,	10.00	298.00
Use of lockers, Hemenway Gymnasium,		2,959.00
Summer School excursions, surplus,		78.84
Locker deposits unredeemed, Law School,		89.00
Deposits for keys to Department Libraries. . . .		54.12
		769,464.36

Sundries.

Professorship of Hygiene, from Trustees,	\$672.89	
Assa Gray's copyrights,	776.79	
Trustee of George H. Emerson estate,	148.99	
Trustee of Charles L. Hancock real estate, . .	774.11	
Trustees of Edward Hopkins,	208.86	
Sale of grass, wood, old material, &c.,	5,868.98	
“ old examination papers,	497.04	
“ tickets to Commencement Lunch,	372.50	
“ tickets to Divinity School Alumni Dinner, .	52.00	
“ books, pamphlets, catalogues, &c.,	9,323.92	
“ slides and photographs,	60.00	
“ apparatus,	339.02	
Board of horses, cattle, &c., at Bussey Institution,	4,724.49	
Use of Library by resident graduates and others, .	95.00	
“ Gymnasium by graduates and others,	168.12	
“ Buildings (not Univ. Houses and Lands), .	6,448.70	
Advertising in Medical School publications, . . .	375.00	
Fees in Infirmary, Dental School,	6,105.10	
Mary L. Whitney Scholarship, from the Executor of the will of C. L. B. Whitney,	65.00	
Engineering camp at Squam Lake,	11,290.42	
Fire insurance award on property not held as an investment,	396.00	
Loans in place of income for research in Physics,	3,325.00	
Heat and power to the House of the Good Samaritan,	2,020.35	54,108.38

Total amount of income, excluding gifts, . . . \$1,686,428.08

Gifts for immediate use (see page 29), 358,819.98

Amount carried forward, \$2,045,248.06

*of the Treasurer of Harvard College,
July 31, 1906.*

EXPENSES (*continued*).

Amounts brought forward,	\$1,637.20	\$2,338,772.75
Sundry payments (<i>continued</i>).		
Woodland Hill Fund, taxes on Muddy River land, and other expenses,	1,232.17	
Gifts for Cuban Teachers, expenses,	115.00	3,084.37
Construction Funds.		
Emerson Hall,	\$54,945.14	
Langdell Hall,	16,530.25	
Semitic Building,	4.83	
John Simpkins Laboratories, Department of Mining and Metallurgy,	127.70	
Stadium, and improvements at The Soldier's Field,	2,779.24	
Stillman Infirmary,	2,813.21	76,700.37
Total amount of expenses,		<u>\$2,413,507.49</u>

Amount carried forward, \$2,413,507.49

*General Statement of Receipts and Disbursements
for the year ending*

Amount brought forward, \$2,045,248.06

RECEIPTS EXCLUSIVE OF INCOME.

GIFTS FOR CAPITAL ACCOUNT.

Julia Amory Appleton Fellowship Fund, . .	\$20,000.00	
Arnold Arboretum Fund (additional),	885.00	
Daniel Austin Fund (College) (additional), . .	1,576.86	
" " " (Divinity Sch.) (additional),	225.26	
William H. Baldwin Jr. 1885 Fund,	5,588.96	
William H. Baldwin Jr. Bequest,	2,000.00	
Bullard Professorship of Neuropathology Fund, .	50,000.00	
James C. Carter Fund (University),	100,000.00	
" " Professorship Fund (Law Sch.),	100,000.00	
James Coolidge Carter Loan Fund,	12,000.00	
Francis James Child Memorial Fund (add'l),	50.00	
Fund of the Class of 1846 (additional),	180.02	
Book Fund of the Class of 1881,	8,500.00	
Twenty-fifth Anniversary Fund of the Class of		
1881,	88,570.00	
George H. Emerson Scholarship Fund (add'l),	20,656.20	
George Fabyan Foundation for Comparative		
Pathology (additional),	75,000.00	
George Fisher Scholarship Fund,	8,500.00	
Richard W. Foster Fund (additional), . . .	12,500.00	
Henry L. Higginson Fund,	20,000.00	
Hughes Loan Fund (additional),	750.00	
Francis Parkman Fellowship Fund,	10,000.00	
Nelson Robinson Jr. Additional Fund, . . .	175,000.00	
Robert W. Sayles Fund,	5,000.00	
Francis Skinner Fund,	20,000.00	
Teachers' Endowment Fund (additional),	1,108,040.93	
Anonymous Fund in the Department of Theory and		
Practice,	10,000.00	
Jerome Wheelock Fund (additional),	10.00	
Emperor William Fund,	19,315.00	1,859,296.23
		\$3,904,546.39

SALES, ETC., GENERAL INVESTMENTS.

\$50,000 Am. Tel. & Tel. 5% Gold Notes of 1907, .	\$50,031.25
35,600 Burl. & Mo. River (Neb.) R. R. non. ex.	
6's, called and paid at par,	35,600.00
100,000 Chicago & Alton 4% Coll. Notes of 1907,	98,937.50
154,500 Eastern 1st M. 6's of 1906,	154,773.45
£19,600 Eastern 1st M. 6's Sterling of 1906, . . .	95,383.40
40,000 Interborough Rapid Transit Co. 4's, differ-	
ence on syndicate purchase and sale, . .	600.62
100,000 Missouri Pacific 5% Notes of 1906, . . .	100,000.00

Amounts carried forward, \$585,326.22 \$3,904,546.39

*of the Treasurer of Harvard College,
July 31, 1906.*

Amount brought forward, \$2,413,507.49

INVESTMENTS AND SUNDRY PAYMENTS.

GENERAL INVESTMENTS.

\$100,000 Central Crosstown Coll. Trust 5% Notes of 1909,	\$99,875.00	
1,000 shares Chicago, Milwaukee & St. Paul, com., 325 " Chicago & North Western, common, .	163,625.00	53,641.25
100,000 Detroit Edison Co. 1st M. 5's of 1933, . . .	102,500.00	
200,000 Interborough Metropolitan Coll. Trust 4½'s of 1956,	191,000.00	
58,000 Kansas City, Fort Scott & Memphis Cons. M. 6's of 1928,	71,875.00	
1,500 shares Massachusetts Gas Companies, pref'd,	132,107.00	
100,000 Missouri Pacific 5% Notes of 1908,	99,500.00	
9,000 Montana Central 1st M. 6's of 1937,	12,285.00	
163, $\frac{7}{8}$ shares New York Central & Hudson River, .	16,302.00	
29 rights " " " "	196.84	
100,000 Oregon Short Line Ref. M. 4's of 1929, . .	96,875.00	
100,000 Railway & Light Securities Co. Coll. Trust 5's of 1935,	101,000.00	
250,000 Richmond-Washington Co. Coll. Trust 4's of 1948, Series C,	256,250.00	
50,000 St. Louis National Stock Yards 1st M. 4's of 1930,	49,000.00	
100,000 Seattle Electric Co. 5% Notes of 1911, . . .	98,666.67	
100,000 Southern Pacific 1st Ref. M. 4's of 1955, . .	97,062.50	
50,000 United Electric Securities Co. Coll. Trust S. F. 5's of 1935, 22d series,	51,375.00	
100,000 United Traction & Electric Co. 1st M. 3's of 1933,	112,000.00	
50,000 Wood Worsted Mills Corp'n 4% Construc- tion & Equipment Gold Notes of 1910, .	49,500.00	
800 shares Great Northern, preferred,	230,462.50	
104 " " " " subscription,	2,600.00	
1 right " " " "	34.13	
Faneuil Hall Square Estate, \$90,000.00		
Legal expenses,	486.00	90,486.00
Improvements on Gray Estate,	59,510.03	
Advances to Bussey real estate,	113,545.26	
" Calvin and Lucy Ellis real estate,	178.19	
" Harvard Dining Association.		
To long period debt, . . \$108,547.81		
To short " " . . . 3,758.81	112,306.12	
" Sundry accounts,	1,839.92	
Invested in notes,	1,140,000.00	
Accrued interest and expenses on bonds bought, . .	8,464.55	
Expense of collecting certain bonds,	7.17	3,613,569.63
Amount carried forward,		\$6,027,077.12

*General Statement of Receipts and Disbursements
for the year ending*

RECEIPTS EXCLUSIVE OF INCOME (*continued*).

Amounts brought forward, . . . \$535,326.22 \$3,904,546.39

SALES, ETC., GENERAL INVESTMENTS (*continued*).

100,000 New England Tel. & Tel. Co. 6's of 1906,	100,000.00	
200,000 New York Central & Hudson River (L. S. & M. S. Coll.) 3½'s of 1998, difference on exchange of coupon for registered form,	1,500.00	
418 rights, New York, New Haven & Hartford,	2,006.40	
50,000 Penn'a Co. Coll. Tr. 4½% Notes of 1905, .	50,000.00	
4,000 Pennsylvania Co. 3½'s of 1916,	4,000.00	
100,000 Rutland Car Trust 4½'s of 1905,	100,000.00	
Notes paid,	<u>1,180,000.00</u>	1,972,832.63

SALES, ETC., SPECIAL INVESTMENTS OF VARIOUS FUNDS.

Edward W. Codman Fund.

5,000 Northern Pacific-Great Northern Joint 4's (C. B. & Q. Collateral) of 1921,	\$4,983.75	
10 shares Boston & Albany R. R.,	2,568.75	
55 " Boston & Lowell R. R.,	13,468.12	
68 " Boston & Maine R. R., common,	10,891.12	
19 " Fitchburg R. R., preferred,	2,790.62	
29 " Old Colony R. R.,	6,059.00	
37 " Père Marquette R. R., preferred,	2,992.37	
10 " Barristers Hall Trust,	790.00	
25 " Hotel Trust,	2,915.63	
12 " Municipal Real Estate Trust,	1,200.00	
62 " Old Boston National Bank,	6,618.50	
Undivided half of Estate in Nahant, Mass. \$10,788.72		
Less commission,	<u>55.00</u>	10,733.72
		66,011.58

Henry S. Nourse Fund.

3 shares Pennsylvania Steel Co., common,	\$149.62	
Mortgage Notes paid,	<u>7,300.00</u>	7,449.62

George Smith Bequest.

115 shares Boatmen's Bank of St. Louis,	28,922.50
---	-----------

Daniel A. Buckley Fund.

Real estate in Cambridge, Mass.,	\$5,500.00	
Less commission and expenses,	<u>276.02</u>	5,223.98

Fund for Advancement of Astronomical Science (1902).

Mortgage Note paid,	3,000.00
-------------------------------	----------

Eaton Professorship Fund.

Mortgage Notes paid,	84,000.00
--------------------------------	-----------

Price Greenleaf Fund.

317 shares Boston & Maine, common,	\$54,801.86	
5,000 Burl. & Mo. R. in Neb. non ex. 6's called at par,	5,000.00	
Personal Note with collateral,	<u>60,000.00</u>	

Amounts carried forward, \$119,801.36 \$6,071,986.59

*of the Treasurer of Harvard College,
July 31, 1906.*

INVESTMENTS AND SUNDRY PAYMENTS (*continued*).

Amount brought forward, \$6,027,077.12

SPECIAL INVESTMENTS OF VARIOUS FUNDS.

Daniel A. Buckley Fund.

Cambridge real estate,		
Additional purchase,	\$75.00	
Mortgage paid,	2,500.00	
Improvements,	<u>5,252.85</u>	7,827.85

Edward W. Codman Fund.

Mortgage note,		5,000.00
--------------------------	--	----------

Price Greenleaf Fund.

\$25,000 Central Crosstown Coll. Trust 5 % Notes of 1909,	\$24,848.75	
50,000 Seattle Electric Co. 5 % Notes of 1911,	49,388.83	
40 shares Great Northern, preferred,	11,525.00	
Personal note with collateral,	60,000.00	
Note of Massachusetts Cotton Mills,	<u>50,000.00</u>	195,702.08

Robert Troup Paine Fund.

\$2,000 Massachusetts 3½'s of 1935,		2,097.50
---	--	----------

Property received for Nelson Robinson Jr. Additional Fund.

1750 shares Gauley Coal Land Co., preferred,		175,000.00
--	--	------------

Property received on account of the Teachers' Endowment Fund.

\$50,000 Wisconsin Central, Minneapolis Terminal Purchase Money M. 3½'s of 1950, . . .	\$50,000.00	
10 shares Harvard Riverside Associates, . .	10,000.00	60,000.00

Amount carried forward,	<u>\$6,472,704.55</u>
-----------------------------------	-----------------------

*General Statement of Receipts and Disbursements
for the year ending*

RECEIPTS, EXCLUSIVE OF INCOME (continued).

Amount brought forward, \$6,071,986.59

SALES, ETC., SPECIAL INVESTMENTS (continued).

Price Greenleaf Fund (continued).

Amount brought forward,	\$119,801.86	
25,000 New Eng. Tel. & Tel. Co. 6's of 1906, paid,	25,000.00	
50,000 Note of Massachusetts Cotton Mills paid,	50,000.00	
28 rights New York Central & Hudson River,	152.87	194,953.73

David A. Wells Fund.

11 shares Walter A. Wood M. & R. Machine Co.,		108.63
---	--	--------

SUNDRIES.

Harvard Dining Association.

To reduce long period debt,	\$7,787.88	
" short " " 	875.88	\$8,163.76

Randall Hall Association, to reduce debt,	1,000.00	
---	----------	--

Premiums on Bonds, repaid in part,	9,411.12	
--	----------	--

Advances for accrued interest and expenses on bonds repaid,	11,376.50	
---	-----------	--

Improvements on Adams Estate, repaid in part, .	8,398.00	
---	----------	--

" " Bussey Real Estate, repaid in part,	1,000.00	
---	----------	--

" " Gray Estate, repaid in part, . .	8,268.17	
--	----------	--

" " Townsend Estate, repaid, . . .	139.62	
--	--------	--

Loans to Students, repaid,	2,834.77	
--------------------------------------	----------	--

Sundry repayments,	198.00	
------------------------------	--------	--

Options forfeited on Medical School real estate on Boylston and Exeter Streets,	1,000.00	
---	----------	--

Insurance award, Fanenil Hall Square Estate, . . .	17,500.00	59,229.94
--	-----------	-----------

Bursar's Sundry Accounts.

Receipts during the year.

On account of Harvard Dining Association, .	\$213,983.24	
---	--------------	--

" Randall Hall Association, . .	75,652.01	
------------------------------------	-----------	--

On sundry accounts,	172,949.20	462,584.45
-------------------------------	------------	------------

Balance, August 1, 1905.

Cash in Adams Trust Co.,	\$51,692.63	
------------------------------------	-------------	--

" City Trust Co.,	2,782.22	
--------------------------------	----------	--

" Equitable Trust Co.,	48,787.87	
-------------------------------------	-----------	--

" Merchants National Bank,	7,937.54	
---	----------	--

" National Shawmut Bank,	25,145.21	
---------------------------------------	-----------	--

" National Union Bank,	61,719.58	
-------------------------------------	-----------	--

" Old Boston National Bank,	42,858.31	
--	-----------	--

" hands of Bursar,	38,217.37	
---------------------------------	-----------	--

Term Bills overdue,	57,675.59	336,816.31
-------------------------------	-----------	------------

Total,	\$7,125,679.64	
------------------	----------------	--

*of the Treasurer of Harvard College,
July 31, 1906.*

INVESTMENTS AND SUNDRY PAYMENTS (*continued*).

Amount brought forward, \$6,472,704.55

SUNDRIES.

Certain bills for 1904-05 which were charged off, but not paid,
during that year, \$8,149.20

Bursar's Sundry Accounts.

Payments during the year.

On account of Harvard Dining Association, .	\$217,777.90	
“ Randall Hall Association, . .	74,406.33	
On sundry accounts,	178,336.84	470,521.07

Balance, July 31, 1906.

Cash in American Loan and Trust Co.,	\$2,492.62	
“ City Trust Co.,	40,342.41	
“ Equitable Trust Co.	3,811.42	
“ Merchants National Bank,	10,483.64	
“ National Shawmut Bank,	180.52	
“ National Union Bank,	1,517.37	
“ Old Boston National Bank,	29,491.67	
“ hands of Bursar,	40,518.71	
Term Bills overdue,	50,966.46	179,304.82
Total,		\$7,125,679.64

SPECIAL INVESTMENTS.

The investments are divided into two classes, *general investments*, made up of Funds invested together (see page 53), and *special investments*, of Funds invested separately.

Any Fund specially invested, wholly, or in part, is kept so either because the giver restricted its investment, even in some cases having selected the securities, or because the gift establishing the Fund, or adding to it, was received in securities or other kinds of property which have not yet been sold for reinvestment with general investments.

The Funds separately invested for each Department and the income are as follows:—

UNIVERSITY.	Principal, July 31, 1906.	Income.
John W. Carter, University Houses and Lands,	\$12,500.00	\$417.55
George B. Dorr, University Houses and Lands,	115,966.56	3,873.73
George Draper, University Houses and Lands,	48,458.50	1,618.70
Robert H. Eddy, University Houses and Lands,	56,787.00	1,896.90
John Davis Williams French, University Houses and Lands,	5,322.09	166.76
John C. Gray, University Houses and Lands,	25,000.00	835.09
Walter Hastings, Real Estate, Sacramento St., Cambridge,	20,000.00	434.36
Insurance and Guaranty, University Houses and Lands (transf'd during year), Real Estate, Lucas St., Boston,	4,000.00	1,069.09
Joseph Lee, University Houses and Lands,	10,000.00	334.04
Henry S. Nourse (part), 25 shares Brookside Mills,	2,500.00	175.00
40 " Missouri Zinc Fields Co.,	120.00	
Mortgage Notes (paid during year),		314.38
Francis E. Parker, University Houses and Lands,	113,817.44	3,801.93
Henry L. Pierce (Residuary) (part), University Houses and Lands,	31,675.45	
Riverside, 6 shares Harvard Riverside Associates,	6,000.00	
Henry Villard, University Houses and Lands,	50,000.00	1,670.19
William F. Weld, University Houses and Lands,	100,000.00	3,340.38
Amounts carried forward,	\$602,147.04	\$19,947.99

Amounts brought forward, \$602,147.04 \$19,947.99

COLLEGE.

Daniel A. Buckley (part),		
Real Estate in Cambridge, Mass.,	60,252.85	4,802.66
" " Deer Isle, Me.,	1.00	
Edward W. Godman (part),		
\$5,000 Kansas City, Fort Scott & Memphis R. R.		
Cons. M. 6's of 1928,	6,250.00	800.00
5,000 Northern Pacific-Great Northern Joint 4's		
(C. B. & Q. collateral) of 1921,	4,816.25	285.00
10 shares Boston & Albany R. R. (sold during year),		24.50
63 " Boston & Maine R. R., common (sold		
during year),		220.50
29 " Old Colony R. R. (sold during year), . .		50.75
2 " Pacific Mills,	4,600.00	820.00
15 " Barristers Hall Trust,	1,085.00	89.92
11 " Boston Real Estate Trust,	18,225.00	495.00
25 " Central Building Trust,	2,875.00	100.00
25 " Hotel Trust (sold during year),		62.50
12 " Municipal Real Estate Trust (sold during		
year),		10.98
Mortgage on real estate in Nahant, Mass.,	5,000.00	100.00
T. Jefferson Coolidge, for Research in Physics,		
625 shares Massachusetts Electric Companies, pref.,	57,500.00	
Eaton Professorship of the Science of Government,		
Mortgages on real estate in New York City (paid		
during year),		8,758.59
Eliot Professorship (Jon. Phillips's Gift),		
\$10,000 City of Boston 3½'s of 1920,	10,000.00	850.00
Professorship of Hygiene (part),		
Policy of Mass. Hospital Life Insurance Co., . .	5,000.00	200.00
\$16,000 Northern Pacific-Great Northern Joint 4's		
(C. B. & Q. collateral) of 1921,	15,681.85	640.00
Charles Eliot Norton Fellowship,		
\$15,000 Northern Pacific-Great Northern Joint 4's		
(C. B. & Q. collateral) of 1921,	14,100.00	600.00
George Foster Peabody Scholarship,		
\$6,000 Mexican Coal & Coke Co. 1st M., S. F. 5's		
of 1926,	4,800.00	300.00
Nelson Robinson Jr. Additional,		
1,750 shares Gauley Coal Land Co. preferred, . .	175,000.00	
Dunlap Smith Scholarship,		
\$5,000 Metropolitan West Side Elevated R. R. Ex-		
tension M. 4's of 1928,	4,700.00	200.00
Stoughton Scholarship (part),		
Real Estate in Dorchester,	1,294.80	100.00
Amounts carried forward,	\$987,828.29	\$32,458.84

Amounts brought forward,	\$987,828.29	\$32,458.24
Teachers' Endowment (part),		
Broadway Realty Co. Purchase Money, 2d M. 5's		
of 1916,	5,000.00	250.00
\$50,000 Wisconsin Central, Minneapolis Terminal		
Purchase Money M. 3½'s of 1950,	50,000.00	1,750.00
10 shares Harvard Riverside Associates,	10,000.00	
Wales Professorship of Sanskrit,		
Real Estate, Cornhill, Boston,	40,000.00	1,988.24
Samuel Ward's Gift (part),		
Ward's (Bumkin) Island, Boston Harbor, . . .	1.00	

LIBRARY.

Ichabod Tucker (part),		
Policy of Mass. Hospital Life Insurance Co., . . .	5,000.00	200.00

LAW SCHOOL.

James Barr Ames Prize (part),		
Personal Note,	2,000.00	163.30

MEDICAL SCHOOL.

Calvin and Lucy Ellis (part),		
40,000 Northern Pacific-Great Northern Joint 4's		
(C. B. & Q. collateral) of 1921,	26,585.00	1,600.00
Real Estate in Boston (half),	22,500.00	82.64
Real Estate in Eden, Bar Harbor, Maine,	10,000.00	
George C. Shattuck (part),		
\$25,000 Kansas City, Fort Scott & Memphis R. R.		
Cons. M. 6's of 1928 (\$208.70 deducted from in-		
come for sinking premium),	29,481.50	1,296.30

OBSERVATORY.

Advancement of Astronomical Science (1902) (part),		
\$5,000 Northern Pacific-Great Northern Joint 4's		
(C. B. & Q. collateral) of 1921,	4,800.00	200.00
15 shares Calumet & Hecla Mining Co.,	9,000.00	825.00
Mortgage Note (paid during year),		37.50
Amounts carried forward,	\$1,202,195.79	\$40,846.33

Amounts brought forward, \$1,202,195.79 \$40,846.82

**PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY
AND ETHNOLOGY.**

Peabody Building (part),	} \$54,000 Kansas & Mis- souri R. R. 1st M. 5's of 1922,	{	11,512.72	622.82
Peabody Collection (part),			19,218.64	1,088.84
Peabody Professor (part),			19,218.64	1,088.84
Thaw (part) (\$8.48 deducted from income for sinking premium),				
\$20,000 Girard Point Storage Co. 1st M. 3½'s of 1940,			20,288.14	691.52

BUSSEY INSTITUTION.

Woodland Hill,				
Laboratory of Comparative Pathology building, .	18,115.23		750.00	

ARNOLD ARBORETUM.

Robert Charles Billings,				
\$5,000 Butte Water Co. 1st M. 5's of 1921,	4,000.00		250.00	

SPECIAL FUNDS.

Bussey Trust,				
Real Estate,	392,710.18		17,024.64	
Fund of the Class of 1834,				
Policy of Mass. Hospital Life Insurance Co., . . .	1,000.00		40.00	
Fund of the Class of 1844,				
Policy of Mass. Hospital Life Insurance Co., . . .	6,500.00		260.00	
Fund of the Class of 1853,				
Policy of Mass. Hospital Life Insurance Co., . . .	3,725.00		149.00	
Calvin and Lucy Ellis Aid (part),				
Real Estate in Boston (half),	22,500.00		82.64	
Charles L. Hancock Bequest (part),				
Real Estate in Chelsea,	1.00			
Robert Troup Paine (accumulating) (\$185.78 deducted from income for sinking premiums),				
\$38,000 Massachusetts 3½'s of 1918,	39,085.63		1,185.25	
5,000 " " 1916,	5,208.55		154.15	
6,000 " " 1935,	6,316.83		161.29	
4,000 " " 1938,	4,842.05		129.14	
George Smith Bequest (part),				
\$10,000 Du Quoin, Ill., Water Works Co. 6's of 1901,	1.00			
20,000 Laclede Gas Light Co. 5's of 1919, . . .	20,000.00		1,000.00	
32,000 United States Steel Corporation 5's of 1963, .	24,000.00		1,600.00	
115 shares Boatmen's Bank of St. Louis (sold during year),			517.50	
200 " Laclede Gas Light Co., preferred, . .	18,800.00		1,000.00	
Amounts carried forward,	\$1,888,739.40		\$68,541.45	

Amounts brought forward,	\$1,888,789.40	\$68,541.45
Price Greenleaf. (\$458.75 deducted from income for sinking premiums.) The total amount of this Fund is \$794,942.67, which is invested as follows:—		
\$70,000 American Bell Telephone Co. 4's of 1908,	70,257.90	2,671.05
70,000 Broadway Realty Co. Purchase money		
1st M. 5's of 1926,	73,776.24	3,315.78
19,000 Burl. & Mo. R. R. in Neb. non ex. 6's of 1918,	19,000.00	1,350.00
25,000 Central Crosstown Coll. Trust 5 % Notes of 1909,	24,843.75	
48,500 Central Vermont R'y 1st M. 4's of 1920, .	37,845.00	1,740.00
3,000 Chicago, Burl. & Quincy R. R. 4's of 1922,	2,880.00	120.00
\$50,000 Chic. Junc. R'ys & Union Stock Yards 5's of 1915,	47,000.00	2,500.00
8,000 Kansas City, Fort Scott & Memphis cons. M. 6's of 1928,	9,570.21	408.63
50,000 Metropolitan Tel. & Tel. Co. 1st M. 5's of 1918,	49,750.00	2,500.00
25,000 New England Tel. & Tel. Co. 6's of 1906 (paid during year),		1,425.79
34,000 New York Central & Hudson River R. R. (Michigan Central Collateral) 3½'s of 1998,	28,412.10	1,190.00
32,000 Northern Pacific—Great Northern Joint 4's (C. B. & Q. collateral) of 1921,	19,993.55	1,280.00
50,000 Seattle Electric Co. 5 % Notes of 1911, . .	49,333.33	
50,000 Union Pacific R.R. 1st M. & L.G. 4's of 1947,	44,625.00	2,000.00
50,000 Note of Massachusetts Cotton Mills, . . .	50,000.00	2,000.00
60,000 Personal Note with collateral (transferred during year),		142.50
360 shares Boston & Lowell R. R.,	46,800.00	2,880.00
317 " Boston & Maine R.R. (sold during year),		1,109.50
237 " Fitchburg R. R., preferred,	22,306.27	1,185.00
40 " Great Northern, preferred,	11,525.00	
355 " Old Colony R. R.,	63,190.00	2,485.00
23 " N. Y. Central & Hudson River R. R., .	2,482.63	115.00
290 " Northern R. R. (N. H.),	29,290.00	1,740.00
52 " West End Street Railway, preferred, .	4,305.56	208.00
34 " Central Vermont R'y,	428.72	
707 " Pennsylvania R. R.,	51,856.04	2,121.00
17 " Boston Real Estate Trust,	22,978.75	765.00
100 " Paddock Building Trust,	10,000.00	350.00
Cash in American Loan and Trust Co.,	2,492.62	
" City Trust Co. (withdrawn during year),		139.30
Totals of special investments, . . .	\$2,633,682.07	\$104,283.00

INVESTMENTS.

INCLUDING GENERAL INVESTMENTS IN DETAIL.

The following account exhibits the state of the property, as entered upon the Treasurer's books, July 31, 1906:—

SPECIAL INVESTMENTS, SUMMARY. (For details see page 48.)

Railroad Bonds,	\$368,990.46	
Traction Bonds,	29,543.75	
Sundry Bonds,	438,159.67	
Railroad Stocks,	289,684.22	
Real Estate Trust Stocks,	65,668.75	
Sundry Stocks,	210,020.00	
University Houses and Lands,	569,527.04	
Bussey Real Estate,	892,710.18	
Other Real Estate,	198,665.38	
Mortgages and Notes,	57,000.00	
Deposits in Massachusetts Hospital Life Ins. Co.,	21,225.00	
Cash in American Loan and Trust Co.,	2,492.63	\$2,683,682.07

GENERAL INVESTMENTS.

Mortgages and Notes.

Mortgages,	\$650,000.00	
American Tel. & Tel. Co.'s Note,	50,000.00	
“ Woolen Co.'s Note,	50,000.00	
Armour & Co.'s Notes,	100,000.00	
Buffalo Terminal Association's Notes,	100,000.00	
Edison Electric Illuminating Co.'s Notes,	50,000.00	
Hamilton Manufacturing Co.'s Note,	50,000.00	
Hartford Carpet Corporation's Note,	50,000.00	
Indian Head Mills of Alabama, Note,	50,000.00	
Terminal R. R. Association of St. Louis, Notes,	50,000.00	
Personal Notes, with collateral,	110,000.00	1,810,000.00

Public Funds.

£3,500 Imperial Japanese Government Sterling		
Loan 4½'s of 1925,	\$15,384.55	
\$100,000 United States of Mexico 4's of 1954,	98,250.00	108,584.55

Railroad Bonds.

\$100,000 Baltimore & Ohio 1st M. 4's of 1948,	\$96,625.00	
100,000 B. & O. (S. W. Div.) 1st M. 3½'s of 1925,	89,750.00	
100,000 Baltimore & Ohio (Pittsburg, Lake Erie		
& West Virginia) Ref. M. 4's of 1941,	99,250.00	
125,000 Bangor & Aroostook Cons. Ref. M. 4's of		
1951,	118,750.00	
164,800 Burl. & Mo. R. in Nebr. non ex. 6's,	164,800.00	
444,000 Chicago, Burl. & Quincy 3½'s of 1949,	456,736.29	
200,000 C., B. & Q. (Illinois Div.) 4's of 1949,	200,955.56	

Amounts carried forward, . . . \$1,226,866.85 \$4,052,266.62

Amounts brought forward, . . \$1,226,866.85 \$4,052,266.62

Railroad Bonds (continued).

\$100,000 Chicago & No. Western Gen. M. 3½'s of 1937,	100,959.03	
100,000 Chicago, Rock Island & Pacific Gen. M. 4's of 1938,	106,446.58	
100,000 Chicago Terminal Transfer 1st M. 4's of 1947,	95,772.50	
100,000 Indiana, Ill. & Iowa 1st M. 4's of 1950,	96,500.00	
200,000 Kansas City, Fort Scott & Memphis Cons. M. 6's of 1928,	242,482.76	
114,000 Kansas City, Memphis & Birmingham (assented) Income 5's of 1934,	108,500.00	
100,000 Lake Shore & Michigan Southern Deb. 4's of 1928,	95,000.00	
300,000 Long Island Unified M. 4's of 1949,	283,257.50	
200,000 Louisville & Jeffersonville Bridge Co. 1st M. 4's of 1945,	191,000.00	
100,000 Minneapolis Union 1st M. 5's of 1922,	102,130.64	
100,000 Missouri Pacific 5% Notes of 1908,	99,500.00	
100,000 Montana Central 1st M. 6's of 1937,	135,359.37	
300,000 New York Central & H. R. (L. S. & M. S. Coll.) 3½'s of 1938,	294,464.40	
100,000 New York, New Haven & Hartford Deb. 4's of 1955,	106,125.00	
200,000 New York, Ontario & Western Ref. M. 4's of 1932,	209,964.58	
343,000 Northern Pacific—Great Northern Joint 4's (C. B. & Q. Coll.) of 1921,	164,325.92	
100,000 Oregon Short Line Cons. 1st M. 5's of 1946,	116,678.62	
100,000 Oregon Short Line Ref. M. 4's of 1929,	96,875.00	
77,000 Pennsylvania Co. 3½'s of 1916,	74,875.00	
250,000 Richmond—Washington Co. Coll. Trust 4's of 1943, Series C,	256,140.35	
100,000 St. Louis & San Francisco Ref. M. 4's of 1951,	97,125.00	
£40,000 St. Paul, Minneapolis & Manitoba (Pacific Extension) 4's of 1940,	201,475.32	
100,000 Southern Pacific 1st Ref. M. 4's of 1955,	97,062.50	
200,000 Terminal R. R. Association of St. Louis Gen. M. Ref. 4's of 1953,	200,000.00	
400,000 Union Pacific 1st M. & L. G. 4's of 1947,	353,114.75	5,147,001.67

Traction Bonds.

\$150,000 Boston & Northern Street Ry 1st M. Ref. 4's of 1954,	\$189,000.00	
100,000 Central Crosstown Coll. Trust 5% Notes of 1909,	99,875.00	

Amounts carried forward, . . . \$238,875.00 \$9,199,368.29

Amounts brought forward, . . . \$238,375.00 \$9,199,268.29

Traction Bonds (*continued*).

\$200,000 Interborough-Metropolitan Coll. Trust		
4½'s of 1956,	191,000.00	
200,000 Interborough Rapid Transit 4% Gold		
Notes of 1908,	195,299.38	
100,000 Metrop. West Side Elevated 4's of 1938,	91,746.25	
100,000 " " " Ext. M. 4's		
of 1938,	97,000.00	
150,000 Old Colony Street R'y 1st M. Ref. 4's of		
1954,	189,000.00	
100,000 Schenectady 1st M. 4½'s of 1941, . . .	104,551.27	
100,000 Second Ave. (N. Y.) Con. M. 5's of 1948,	116,579.08	
200,000 Third Avenue (N. Y.) 1st Consol. M.		
4's of 2000,	202,308.84	
100,000 United Traction & Electric Co. 1st M. 5's		
of 1938,	111,781.82	
100,000 Public Service Corporation of New		
Jersey 5% Coll. Notes of 1909, . . .	97,000.00	1,584,641.14

Sundry Bonds.

\$200,000 American Bell Tel. Co. 4's of 1908, . .	\$201,016.62	
200,000 American Tel. & Tel. Co. 4's of 1929, .	196,000.00	
50,000 American Tel. & Tel. Co. 5% Gold Coupon		
Notes of 1907,	46,581.25	
100,000 Boston Electric Light Co. 1st Cons. M.		
5's of 1924,	112,570.51	
145,000 Broadway Realty Co. Purchase money		
1st M. 5's of 1926,	154,916.77	
100,000 Chicago Edison Co. 1st M. 5's of 1926, .	105,808.00	
250,000 Chicago Junction Railways and Union		
Stock Yards Coll. Trust 5's of 1915, .	250,181.80	
100,000 Chicago Junction Railways and Union		
Stock Yards 4's of 1940,	98,500.00	
100,000 Detroit Edison Co. 1st M. 5's of 1938, .	102,480.82	
100,000 Metrop. Tel. & Tel. Co. 1st M. 5's of 1918,	99,500.00	
100,000 Minneapolis General Electric Co. Gen.		
M. 5's of 1934,	102,415.26	
100,000 Montreal Light, Heat and Power Co. 1st		
M. Coll. Tr. 4½'s of 1932,	100,849.97	
100,000 Municipal Gas & Electric Co. of Roches-		
ter, N. Y., 1st M. 4½'s of 1942, . . .	100,000.00	
100,000 New England Tel. & Tel. Co. 5's of 1916,	109,411.74	
100,000 Portland General Electric Co. 1st M.		
5's of 1935,	102,175.00	
101,000 Railway and Light Securities Co. Coll.		
Trust 5's of 1935,	100,988.70	
160,000 St. Louis National Stock Yards Co. 1st		
M. 4's of 1930,	157,650.00	

Amounts carried forward, . . . \$2,140,945.94 \$10,783,909.48

Amounts brought forward, . . \$2,140,945.94 \$10,783,909.43

Sundry Bonds (continued).

\$50,000 Wood Worsted Mills Corp'n 4½% Cons. and Equip. Gold Notes of 1910, . . .	49,500.00	
50,000 United Electric Securities Co. Coll. Trust S. F. 5's of 1935, 22d Series,	51,375.00	
100,000 Seattle Electric Co. 5% Notes of 1911,	98,666.67	2,340,487.61

Railroad Stocks.

900 shares Chicago & No. Western, common, .	\$143,703.75	
1033 " Great Northern, preferred,	256,324.43	
1 right " " "	34.13	
700 shares Manhattan,	92,762.50	
1388- $\frac{1}{16}$ shares New York Central & Hudson River,	80,976.87	
29 rights " " " "	196.34	
418 shares New York, New Haven & Hartford, .	74,693.86	
4771 " Pennsylvania,	309,500.30	
1000 " Chicago, Milwaukee & St. Paul, com.,	163,625.00	1,121,817.18

Manufacturing and Telephone Stocks.

2000 shares American Smelters Securities Co. 5% cumulative, preferred, series B,	\$196,000.00	
1700 shares American Tel. & Tel. Co.,	238,125.38	
12 " Amoskeag Manufacturing Co.,	3,654.00	
187 " Merrimack " "	18,615.10	
24 " Pacific Mills,	16,668.29	473,063.77

Real Estate Trust Stocks.

1000 shares Barristers Hall,	\$92,766.00	
2500 " Department Store,	220,291.88	
1000 " Essex Street,	100,000.00	
750 " Kimball Building,	75,000.00	
1089 " Paddock Building,	104,363.73	
1000 " Post Office Square Building,	103,000.00	695,421.60

Sundry Stocks.

1500 shares Massachusetts Gas Companies, pref'd,	133,107.00	
--	------------	--

Real Estate in Boston.

Adams Estate, Washington Street,	\$275,035.02	
Amory Estate, Franklin Street,	165,615.81	
Cowdin Estate, Haymarket Square,	36,000.00	
Estate, 20 and 21 Haymarket Square,	58,913.52	
Faneuil Hall Square Estate,	72,986.00	
Gerrish Block, Blackstone and North Streets, .	192,875.75	
Gray Estate, Washington Street,	949,751.16	
Lowell Estate, Washington Street,	464,368.91	
Townsend Estate, Hawkins Street,	44,569.49	
Webb Estate, Washington Street,	164,604.79	2,424,730.45

Amount carried forward, \$17,971,536.04

	Amount brought forward,	\$17,971,526.04	
Sundries.			
	Advances to Bussey Trust ,	\$345,217.07	
"	Calvin & Lucy Ellis Real Estate ,	345.81	
"	William Hayes Fogg Art Museum ,	93.68	
"	Emerson Hall ,	3,368.81	
"	Dental School Real Estate ,	87.58	
"	Medical School ,	5,558.89	
"	Medical School Real Estate ,	106.69	
"	Medical School Undertaking ,	1,188,526.43	
"	Observatory ,	5,466.59	
"	Peabody Museum of American Archaeology and Ethnology ,	2,117.79	
"	Botanic Department ,	8,990.78	
"	Harvard Dining Association ,	180,792.13	
"	Randall Hall Association ,	81,202.27	
"	Uriah A. Boyden Fund ,	5,735.53	
"	Classical Publication Fund of the Class of 1856 ,	1,505.58	
"	Woodland Hill Fund ,	2,548.63	
"	Stadium ,	48,665.32	
"	Sundry Accounts ,	4,254.89	
		<u>\$1,829,573.47</u>	
	Term Bills overdue ,	50,966.46	1,880,539.93
	Cash in City Trust Co. ,	\$40,342.41	
"	Equitable Trust Co. ,	3,811.42	
"	Merchants National Bank ,	10,483.64	
"	National Shawmut Bank ,	180.52	
"	National Union Bank ,	1,517.37	
"	Old Boston National Bank ,	29,491.67	
"	hands of Bursar ,	40,518.71	125,845.74
	Total ,		\$19,977,911.71

FUNDS.

The foregoing property represents the following Funds and Balances, and is answerable for the same* : —

Principal, Aug. 1, 1906.	UNIVERSITY FUNDS.	Principal, July 31, 1906.
\$1,143.00	Band Music (1903),	\$1,143.00
	William H. Baldwin, Jr. (1906),	2,000.00
4,950.00	Andrew Bigelow (1898),	4,950.00
5,000.00	Stanton Blake (1899),	5,000.00
4,771.38	Charlotte F. Blanchard (1891),	4,771.38
5,250.00	Samuel D. Bradford (1866),	5,250.00
	James C. Carter (1906),	100,000.00
12,500.00	John W. Carter (1898),	12,500.00
155.10	Thomas Cotton (1727),	154.82
33,835.06	John Cowdin (1888),	33,835.06
115,966.56	George B. Dorr (1882),	115,966.56
48,458.50	George Draper (1892),	48,458.50
56,787.00	R. H. Eddy (1901),	56,787.00
101,225.49	Harvard Ellis (1895),	101,225.49
12,500.00	Richard W. Foster (1905),	25,000.00
5,322.09	John Davis Williams French (1901),	5,322.09
20,571.18	Gore (1834),	20,571.18
25,000.00	John C. Gray (1881),	25,000.00
20,000.00	Walter Hastings (1888),	20,000.00
	Henry L. Higginson (1906),	20,000.00
5,000.00	George Baxter Hyde (1895),	5,000.00
36,005.06	Insurance and Guaranty (1860),	4,000.00
16,871.68	Leonard Jarvis (1859),	16,871.68
10,000.00	Henry P. Kidder (1894),	10,000.00
10,000.00	Joseph Lee (1802),	10,000.00
10,000.00	Theodore Lyman (1898),	10,000.00
81,950.54	Henry T. Morgan (1888),	81,950.54
15,750.00	Israel Munson (1844),	15,750.00
47,475.66	Henry S. Nourse (1904),	48,972.49
113,817.44	Francois E. Parker (1886),	113,817.44
30,000.00	William Perkins (1888),	30,000.00
50,846.17	Henry L. Pierce (1898),	50,217.37
205,474.96	Henry L. Pierce (Residuary) (1898),	178,183.71
63,750.24	President's (1883),	63,640.31
366,416.47	Retiring Allowance (1879),	366,416.47
6,000.00	Riverside (1903),	6,000.00
23,370.08	John L. Russell (1889),	23,370.03
1,901.77	Mary R. Searle (1903),	1,962.53
46,913.13	Isaac Sweetser (1894),	46,913.13
5,000.00	Seth Turner (1883),	5,000.00
100,000.00	William F. Weld (1893),	100,000.00
\$1,719,978.41	. . Amounts carried forward,	\$1,796,000.68

* The dates of the establishment of the Funds are printed after their titles.

Principal,
Aug. 1, 1906.

Principal, July 31, 1906.

\$1,719,978.41 . . Amounts brought forward, **\$1,796,000.68**

COLLEGE FUNDS.*

10,392.53	John W. P. Abbot (1874), . . .	10,780.42
27,748.64	Alford Professorship (1765), . . .	27,748.64
6,230.00	Daniel Austin (1879),	7,806.86
	William H. Baldwin, Jr. 1885	
	(1906),	5,787.61
15,000.00	Robert Charles Billings, for	
	Gray Herbarium (1903),	15,000.00
1,050.00	John A. Blanchard (1873), . .	1,050.00
39,780.00	Botanic Department (1880),	39,780.00
28,337.40	Boylston Professorship (1772), . .	28,337.40
11,437.75	Francis James Child Mem.(1897),	11,610.52
7,105.12	Classical Publication Fund of the	
	Class of 1856 (1888),	7,105.12
100,409.98	Class of 1880 (1905),	103,669.41
150,617.54	Class Subscription (1870),	150,617.54
321,361.90	Edward W. Codman (1905), . .	322,158.89
1,439.10	Cryptogamic Herbarium (balance), .	1,900.49
57,500.00	T. Jefferson Coolidge, for Re-	
	search in Physics,	57,969.66
3,598.18	Paul Dudley (1751),	3,768.73
105,051.21	Eaton Professorship (1908), . .	106,516.38
21,619.50	Eliot Professorship (1814),	21,619.50
10,000.00	Eliot " (Jon. Phillips'	
	gift)(1854),	10,000.00
3,500.01	Erving Professorship (1791), . . .	3,500.01
35,990.99	Fisher " (1834),	35,990.99
434.04	Henry Flynt (1760),	419.24
16,240.38	Fund for Permanent Tutors (1796),	16,240.38
1,033.57	Fund for Religious Services (1887), .	1,033.57
12,948.34	Godkin Lectures (1903),	13,556.84
6,789.80	Gospel Church (1863),	6,950.72
882.39	Gray Herbarium (balance),	1,734.70
32,611.00	Asa Gray Memorial (1898), . . .	32,611.00
21,646.65	Asa Gray Professorship of Systematic Botany (1897),	21,608.04
196,369.51	Gurney (1888),	196,677.45
5,287.70	George Silsbee and Ellen Sever	
	Hale (1904),	5,538.35
15,063.00	Harvard Oriental Series (1899), . .	15,101.99
20,655.91	Herbarium (1865),	20,655.91
20,217.08	Hersey Professorship (1772),	20,217.08
21,744.18	Hersey Professorship (Thomas	
	Lee's gift) (1856),	21,744.18
<hr/>		
\$3,049,956.81	. . Amounts carried forward, . . .	\$1,346,807.62 \$1,796,000.68

* Including some actually used in the Graduate School.

Principal, Aug. 1, 1906.		Principal, July 31, 1906.	
\$3,049,956.81	. . Amounts brought forward, . . .	\$1,846,807.62	\$1,796,000.68
34,517.60	Hollis Professorship of Divinity (1726),	34,517.60	
3,747.33	Hollis " of Mathematics (1713),	3,747.33	
6,059.47	Ingersoll Lecture (1894),	5,981.12	
2,087.04	Jefferson Physical Lab'y (balance),	1,934.53	
10,787.97	Lectures on Political Economy (1889),	10,881.95	
15,796.97	Lee Fund for Reading (1863), . . .	15,796.97	
109,875.59	Henry Lee Professorship (1900), .	110,083.71	
7,999.05	Joseph Lovering for Physical Re- search (1891),	8,022.97	
66,407.31	Lowell Fund for a Botanic Garden (1882) (formerly Professorship of Natural History, 1805),	66,407.31	
25,000.00	Arthur T. Lyman (1904), . . .	25,000.00	
43,062.93	McLean Professorship (1834), . .	43,062.93	
1,100.90	Music Department (1903),	1,086.62	
24,294.17	William Belden Noble Lectures (1898),	24,534.86	
100,820.02	Francis Greenwood Peabody Endowment (1905),	104,398.89	
14,266.38	Daniel H. Peirce (1876),	14,334.00	
21,000.00	Perkins Professorship (1841), . .	21,000.00	
31,500.00	Jonathan Phillips (1861), . . .	31,500.00	
75,000.00	Physical Laboratory Endowm't (1881),	75,000.00	
25,020.19	Plummer Foundation (1854), . .	25,020.19	
52,500.00	Pope Professorship (1868),	52,500.00	
231,502.63	Professorship of Hygiene (1899), . .	238,202.91	
520,300.72	Nelson Robinson, Jr. (1899), .	525,000.00	
	Nelson Robinson, Jr. Additional (1906),	175,000.00	
56,368.73	Rumford Professorship (1819), . .	56,368.73	
2,000.00	John L. Russell (1889),	2,000.00	
60,000.00	Gurdon Saltonstall (1901), . .	60,000.00	
4,630.90	George William Sawin (1890),	4,815.21	
	Robert W. Sayles (1906), . . .	5,118.50	
17.53	Barthold Schlesinger (1901), .		
3,957.17	School for Social Workers (balance), (1904),	1,962.16	
23,139.83	Smith Professorship (1816), . . .	23,139.83	
2,500.00	William M. Spackman (1905),	2,500.00	
13,589.79	Josiah Stickney (1899),	12,560.17	
740,255.55	Teachers' Endowment (1905), . . .	1,846,394.10	
16,592.82	John E. Thayer (1885),	16,655.01	
1,015.14	Elizabeth Torrey (1896), . . .	1,047.79	
11,254.41	Henry Warren Torrey (1890), .	11,584.47	
	Twenty-fifth Anniversary Fund of the Class of 1881 (1906),	89,368.98	
101,860.62	Unknown Memorial (1898), . . .	101,972.21	
\$5,509,736.57	. . Amounts carried forward, . . .	\$5,195,308.67	\$1,796,000.68

Principal, Aug. 1, 1906.		Principal, July 31, 1906.	
\$5,509,735.57	. . Amounts brought forward, . . .	\$5,195,308.67	\$1,796,000.68
50,000.00	Henry Villard (1902),	50,000.00	
40,000.00	Wales Professorship (1903),	40,000.00	
16,233.58	Samuel Ward (1680),	17,003.02	
6,489.34	Cyrus M. Warren (1893),	6,492.03	
119,999.17	Henry C. Warren (1899),	115,167.01	
6,149.48	Sylvester Waterhouse (1896),	6,440.89	
50,000.00	Increase Sumner Wheeler (1889),	50,000.00	
21.22	Jerome Wheelock (1903),	32.50	
1,076.10	Chauncey Wright (1884),	1,127.10	
GIFTS FOR SPECIAL USE (BALANCES).			
2,264.02	For Equipment for the Department of Architecture,	3,319.93	
1,378.75	Cases, etc., at the Botanic Garden,	1,183.82	
229.46	Classical Library,	257.07	
322.52	Collections for a Germanic Museum,	322.52	
.13	Electrical Apparatus, . . . . .	.13	
4,077.77	The study of Social Ethics,	1,512.24	
13,014.25	Furnishings of the Department of Social Ethics,	931.43	
22,390.79	Furnishing Emerson Hall,	715.86	
10.65	Physical Research,	10.65	
3,377.56	Plantation of Shrubs, etc.,	3,445.11	
375.00	Salaries,	1,125.00	
262.32	Sanskrit Department,	521.88	
618.57	Semitic Library,	261.35	
808.64	Sugar-cane investigation, etc.,	1,477.88	
5,576.62	Sundry Gifts (balances),	6,107.21	
FELLOWSHIP FUNDS.			
	Julia Amory Appleton (1906),	20,157.98	
5,249.88	George Dillaway (1903),	5,348.73	
11,524.22	Ozias Goodwin Memorial (1889),	11,895.46	
11,145.64	Harris (1868),	10,923.96	
25,409.98	Edward William Hooper (1905),	26,114.41	
10,932.72	John Thornton Kirkland (1871),	11,450.94	
11,851.85	Henry Lee Memorial (1889),	11,963.64	
14,400.00	Charles Eliot Norton (1901),	14,114.22	
12,989.08	Robert Treat Paine (1887),	13,104.76	
58,949.09	John Parker (1878),	59,068.27	
	Francis Parkman (1906),	10,296.25	
32,264.02	Rogers (1869),	32,705.83	
11,638.64	Henry Bromfield Rogers Memo- rial (1889),	12,242.70	
	South End House (balance),	50.00	
11,905.93	John Tyndall (1885),	11,970.27	
11,381.42	James Walker (1881),	11,566.14	
23,228.80	Whiting (1896),	23,849.85	
\$6,107,227.73	. . Amounts carried forward,	\$5,789,086.86	\$1,796,000.68

Principal,
Aug. 1, 1905.

Principal, July 31, 1906.

\$6,107,227.78 . . Amounts brought forward, . . . \$5,789,086.36 \$1,796,000.68

SCHOLARSHIP FUNDS.

3,816.91	Abbot (1852),	3,847.84
2,174.60	Alford (1785),	2,277.70
5,400.18	Bartlett (1881),	5,406.14
5,682.33	Bassett (1876),	5,681.66
13,351.12	Bigelow (1865),	13,483.96
2,716.16	Samuel A. Borden (1896), . . .	2,844.90
114,353.35	Bowditch (1864),	114,843.68
3,545.84	Bright (balance),	3,773.92
3,885.67	Browne (1687),	3,919.87
5,311.46	Morey Willard Buckminster (1898),	5,443.20
33,961.59	Burr (1895),	34,291.39
6,163.34	Ruluff Sterling Choate (1884),	6,180.47
8,428.07	Class of 1802 (1870),	8,502.56
3,294.60	" 1814 (1853),	3,275.78
6,663.29	" 1815(Kirkland)(1852),	6,729.12
4,639.35	" 1817 (1852),	4,684.24
3,529.15	" 1828 (1882),	3,546.42
5,040.72	" 1835 (1853),	5,114.66
5,204.72	" 1841 (1871),	5,251.44
5,203.54	" 1852 (Dana) (1876), . . .	5,250.21
15,962.62	" 1856 (1885),	16,119.27
4,822.52	" 1867 (1886),	4,876.13
5,238.26	" 1877 (1902),	5,306.54
6,069.80	" 1883 (1900),	6,132.52
12,233.87	Crowninshield (1877),	12,273.76
600.00	Warren H. Cudworth (balance),	600.00
5,833.07	Francis H. Cummings (1898), .	6,109.55
5,581.25	George and Martha Derby(1881),	5,595.79
5,168.00	Julius Dexter (1892),	5,232.96
2,857.26	Orlando W. Doe (1893),	2,892.68
5,519.19	William Samuel Eliot (1875), .	5,580.79
41,459.25	Joseph Eveleth (1896),	41,824.41
2,196.31	Fall River (1893),	2,220.40
6,369.20	Farrar (1873),	6,421.09
11,591.25	Richard Augustine Gambrill (1890),	11,690.66
7,759.81	Charles Haven Goodwin(1889),	7,827.63
4,353.60	Greene (1863),	4,409.98
120.00	Price Greenleaf (balance), . . .	100.00
80.00	Harvard Club of Buffalo (balance),	
10,430.56	John Appleton Haven (1902), .	10,444.99
24,229.54	William Hilton (1897),	24,388.04
10,930.60	Ebenezer Rockwood Hoar (1895),	11,023.78
\$6,588,999.68	. . Amounts carried forward, . . .	\$6,224,356.44 \$1,796,000.68

Principal, Aug. 1, 1906.		Principal, July 31, 1906.	
\$6,538,999.68	. . Amounts brought forward, . . .	\$6,224,356.44	\$1,796,000.68
6,502.96	Levina Hoar, for the town of Lincoln, Mass. (1876),	6,461.20	
18,690.69	Hodges (1878),	13,725.46	
6,880.30	Hollis (1722),	6,432.71	
10,956.82	Henry B. Humphrey (1890), . .	11,026.18	
31,088.72	Charles L. Jones (1901), . . .	31,862.34	
10,546.79	George Emerson Lowell (1886),	10,666.71	
5,317.46	Markoe (1903),	5,419.49	
3,285.94	Matthews (balance),	3,922.40	
6,252.09	Merrick (1888),	6,323.43	
8,392.32	Morey (1868),	8,465.10	
5,885.85	Lady Mowison (1648),	5,939.85	
5,760.58	Howard Gardner Nichols (1897),	5,808.65	
6,048.89	Lucy Osgood (1873),	6,195.38	
5,067.84	George Foster Peabody (1902),	5,130.00	
6,735.51	Pennoyer (1670),	6,854.32	
4,423.35	Rebecca A. Perkins (1869), . .	4,483.00	
10,921.80	Philadelphia (1904),	11,014.50	
1,559.06	Wendell Phillips Mem'l (1895),	1,632.96	
850.00	Ricardo Prize (balance),	850.00	
1,221.58	Rodger (1883),	1,279.50	
3,522.53	Henry Bromfield Rogers (1859),	3,539.52	
5,813.49	Edward Russell (1877),	5,864.03	
5,681.59	Sales (1893),	5,750.92	
11,338.82	Saltonstall (1739),	11,451.29	
8,649.68	Leverett Saltonstall (1895), . .	8,734.69	
6,964.54	Mary Saltonstall (1730),	7,094.68	
3,260.55	Sever (1868),	3,265.12	
11,178.22	Sewall (1696),	11,888.06	
49,596.77	Shattuck (1854),	49,847.67	
6,120.11	Slade (1877),	6,200.20	
4,708.30	Dunlap Smith (1903),	4,723.44	
4,558.82	Story (1864),	4,599.92	
3,035.97	Stoughton (1701),	3,218.54	
3,708.77	Swift (1899),	3,884.58	
79,796.20	Thayer (1857),	80,578.53	
4,315.35	Gorham Thomas (1865),	4,369.88	
7,783.99	Toppa (1868),	7,852.95	
25,873.82	Townsend (1861),	26,100.25	
5,089.38	Walcott (1855),	5,130.60	
10,738.18	Christopher M. Weld (1899), . .	10,847.16	
5,341.60	Jacob Wendell (1899),	5,399.55	
11,828.24	Whiting (1874),	11,938.89	
5,046.00	Josiah Dwight Whitney (1904),	5,085.18	
9,539.94	Mary L. Whitney (1903), . . .	9,757.14	
10,123.00	Charles Wyman (1905),	10,202.83	
100.00	Anonymous Gift for Scholarship use,	100.00	
\$6,993,081.59	. . Amounts carried forward, . . .	\$6,683,775.24	\$1,796,000.68

Principal, Aug. 1, 1906.		Principal, July 31, 1906.
\$6,998,081.59	. . Amounts brought forward, . . .	\$6,683,775.24 \$1,796,000.68

BENEFICIARY AND LOAN FUNDS.

51,576.57	Rebecca C. Ames (1903), . . .	52,176.33
608.88	Nathaniel Appleton (1772), . .	632.50
1,903.26	Frank Bolles Memorial (1894), .	1,993.46
1,578.42	William Brattle (1717),	1,578.42
58,511.62	Daniel A. Buckley (1905), . . .	62,801.70
50,717.48	Walter Channing Cabot (1905),	50,921.47
1,078.81	Thomas Danforth (1724), . . .	1,078.31
5,448.73	Moses Day (1880),	5,448.73
481.30	John Ellery (1738),	451.73
1,333.34	Exhibitions (1796),	1,333.34
808.84	Thomas Fitch (1737),	821.09
464.94	Ephraim Flynt (1723),	486.98
161.64	Henry Flynt (1760),	169.32
488.39	Henry Gibbs (1722),	506.28
3,201.90	John Glover (1653),	3,353.67
12,387.77	Price Greenleaf Aid (balance), .	13,943.80
1,624.55	Edwin A. W. Harlow (1905), .	1,701.58
360.46	Edward Holyoke (1743),	377.52
2,441.40	Robert Keayne (1659),	2,441.40
26,230.00	Bertram Kimball (1903),	26,185.00
1,056.92	Mary Lindall (1812),	1,056.92
6,283.58	Susan B. Lyman (1899),	5,988.87
	Susan B. Lyman Loans (College)	
	(balance),	345.02
226.46	Anne Mills (1725),	237.17
10,906.81	Munroe (1880),	10,906.81
2,058.86	Palfrey Exhibition (1821),	2,076.46
4,884.96	Dr. Andrew P. Peabody Memo-	
	rial (1896),	4,979.51
484.48	Scholarship and Beneficiary Money	
	Returned (balance),	1,192.24
215.65	Joseph Sewall (1765),	225.89
15,000.19	Alexander Wheelock Thayer	
	(1899),	15,231.19
11,155.10	Quincy Tufts (1877),	11,155.10
291.19	Benjamin Wadsworth (1737), .	304.98
PRIZE FUNDS.		
	Anonymous Gift for a prize essay	
	in the Department of History and	
	Government (balance),	250.00
50.00	Jeremy Belknap (balance), . . .	
1,599.37	James Gordon Bennett (1893), .	1,675.16
402.46	Philo Sherman Bennett (1905),	421.52
10,320.82	Francis Boott (1904),	10,720.04
81,106.13	Bowdoin Prizes for Dissertations (1791),	31,414.67
\$7,310,472.32	. . Amounts carried forward, . . .	\$7,010,359.41 \$1,796,000.68

Principal, Aug. 1, 1906.		Principal, July 31, 1906.	
\$7,810,472.32	. . Amounts brought forward, . . .	\$7,010,359.41	\$1,796,000.68
8,380.04	Boylston Prizes for Elocution (1817),	8,232.88	
5,848.36	Coolidge Debating (1899),	5,401.86	
50.00	Dante (balance),	50.00	
2,700.00	Lloyd McKim Garrison Prize and Medal (1904),	2,700.00	
1,845.47	Edward Hopkins Gift for "De- turs" (1718) (balance),	1,968.36	
1,087.05	Sales (1892),	1,098.57	
2,698.15	John O. Sargent (1889),	2,620.80	
7,000.00	George B. Schier (1890),	7,000.00	
3,620.48	Charles Sumner (1874),	3,792.02	
3,908.74	Robert N. Toppan (1894), . . .	3,944.08	
2,202.47	Philip Washburn (1899), . . .	2,281.84	
114,552.56	David A. Wells (1901),	114,439.97	7,158,829.74

LIBRARY FUNDS.

2,112.70	Bowditch (1861),	\$2,151.54	
154.77	Bright (balance),	223.39	
672.93	Fund of the Class of 1851 (1899),	704.83	
662.65	" " " 1851 (C. F. Dunbar's Gift) (1899),	694.08	
	Book Fund of the Class of 1881 (1906),	3,500.00	
27,797.58	Edwin Conant (1892),	27,700.00	
25,967.15	Constantius (1886),	25,902.61	
5,323.77	Denny (1875),	5,369.64	
5,425.34	Farrar (1871),	5,895.93	
3,308.45	Haven (1844),	3,246.88	
10,157.40	Hayes (1885),	10,157.70	
5,279.53	Hayward (1864),	5,296.86	
1,123.26	R. M. Hodges (balance),		
2,389.81	Hollis (1781),	2,434.02	
2,150.46	Homer (1871),	2,127.90	
502.86	Jarvis (1885),	526.70	
5,288.08	Lane (1863),	5,430.88	
26,899.26	Lowell (1881),	27,272.93	
60,406.31	Minot (1870),	60,296.68	
8,534.88	Charles Eliot Norton (1905), .	8,687.53	
7,197.08	Lucy Osgood (1873),	7,238.61	
7,082.51	Mary Osgood (1860),	7,026.98	
105.32	Price Greenleaf Income for Books (balance),	139.75	
8,916.67	Sales (1892),	8,918.60	
5,357.60	Salisbury (1858),	5,280.91	
20,152.27	Sever (1878),	20,000.00	
3,958.31	Shapleigh (1801),	4,011.78	
\$7,700,787.44	. . Amounts carried forward, . . .	\$244,736.23	\$8,954,880.42

Principal, Aug. 1, 1905.		Principal, July 31, 1906.	
\$7,700,737.44	.. Amounts brought forward, . . .	\$244,736.23	\$8,954,880.43
104.89	George B. Sohler Income for Books (balance),	160.69	
10,548.85	Subscription for Library (1859), . .	10,610.11	
37,684.11	Sumner (1875),	37,532.94	
5,158.71	Kenneth Matheson Taylor (1899),	5,063.22	
12,164.18	Daniel Treadwell (1885), . . .	12,242.04	
5,278.00	Ishabod Tucker (1875),	5,018.28	
343.05	Wales Income for Books (balance),	645.58	
16,032.21	Walker (1875),	15,966.02	
5,250.41	Ward (1858),	5,260.87	
20,087.02	J. Huntington Wolcott (1891),	20,513.58	
100,000.00	Eben Wright (1888),	100,000.00	
2,541.22	Sundry Gifts for books (balances), .	3,711.02	
306.41	Sundry balances,	1,005.92	462,466.50

DIVINITY SCHOOL FUNDS.

11,086.73	Divinity School (balance),	\$6,364.00	
71,427.02	New Endowment (1879),	71,427.02	
17,000.00	Oliver Ames (1880),	17,000.00	
525.00	Hannah C. Andrews (1836), . .	525.00	
890.00	Daniel Austin (1880),	1,115.26	
1,000.00	Adams Ayer (1869),	1,000.00	
15,275.00	Joseph Baker (1876),	15,275.00	
191.35	Beneficiary money returned (balance),	200.40	
4,452.34	Rushton Dashwood Burr (1894),	4,573.54	
37,583.74	Bussey Professorship (1862), . .	37,583.74	
2,177.95	Joshua Clapp (1836),	2,177.95	
5,000.00	Edwin Conant (1892),	5,000.00	
25,544.37	Dexter Lectureship (1810), . . .	25,544.37	
53,703.14	Frothingham Professorship (1892),	54,203.14	
1,050.00	Abraham W. Fuller (1847), . .	1,050.00	
911.34	Lewis Gould (1852),	911.34	
821.29	Louisa J. Hall (1893),	857.86	
6,008.43	Hancock Professorship (1765), .	6,008.43	
77,600.81	Charles L. Hancock (1891), . .	77,600.81	
5,000.00	Haven (1898),	5,000.00	
1,050.00	Samuel Hoar (1857),	1,050.00	
10,000.00	Henry P. Kidder (1881), . . .	10,000.00	
9,184.69	Henry Lienow (1841),	9,184.69	
1,050.00	Caroline Merriam (1867), . . .	1,050.00	
16,015.81	Parkman Professorship (1814), .	16,015.81	
555.76	John W. Quinby (1888),	582.11	
1,000.00	Abby Crocker Richmond (1881),	1,000.00	
1,000.00	John L. Russell (1890),	1,000.00	
10,000.00	William B. Spooner (1890), . .	10,000.00	
40,000.00	Thomas Tileston of New York Endowment (1879),	40,000.00	
\$8,843,840.77	.. Amounts carried forward, . . .	\$423,300.47	\$9,417,296.92

Principal, Aug. 1, 1906.		Principal, July 31, 1906.
\$8,848,840.77	. . . Amounts brought forward, . . .	\$428,800.47 \$9,417,296.92
5,250.00	Mary P. Townsend (1861), . .	5,250.00
2,100.00	Winthrop Ward (1862), . . .	2,100.00
55,845.73	Winn Professorship (1877), . . .	55,845.73

SCHOLARSHIP AND BENEFICIARY FUNDS.

2,538.41	Robert Charles Billings Prize (1904),	2,538.47	
13,804.98	Abner W. Buttrick (1880), . . .	13,860.64	
5,697.48	Thomas Cary (1820),	5,727.52	
2,794.67	George Chapman (1834), . . .	2,827.15	
4,530.14	Joshua Clapp (1839),	4,564.86	
15,075.33	Jackson Foundation (1835), . . .	15,149.89	
5,526.54	J. Henry Kendall (1863), . . .	5,588.52	
8,507.75	Nancy Kendall (1846),	8,534.03	
1,050.00	William Pomroy (1835),	1,050.00	541,352.28

LAW SCHOOL FUNDS.

322,908.17	Law School (balance),	\$347,742.95	
522.53	James Barr Ames Loan (1904),	547.32	
3,864.97	James Barr Ames Prize (1898),	4,116.57	
74,662.88	Bemis Professorship (1879), . . .	78,201.86	
	Gift of James Munson Barnard and Augusta Barnard (balance),	2,021.81	
23,979.82	Bussey Professorship (1862), . .	23,979.82	
	James C. Carter Professorship (1906),	102,764.98	
	James Coolidge Carter Loan (1906),	12,047.40	
15,750.00	Dane Professorship (1829),	15,750.00	
	George Fisher Scholarship (1906),	3,564.84	
66.17	Hughes Loan (1908),	756.12	
47,021.25	Law School Book (1882),	47,021.25	
100,000.00	Law School Library (1898),	100,000.00	
8,340.81	Royall Professorship (1781), . . .	8,340.81	
1,087.01	Scholarship money returned (balance),	496.20	
94,994.97	Weld Professorship (1882), . . .	94,994.97	842,846.90

LAWRENCE SCIENTIFIC SCHOOL FUNDS.

1,222.24	Edward Austin Loans repaid (bal.),	\$374.28	
30,686.85	John B. Barringer (1873), . . .	30,686.85	
6,142.56	George H. Emerson Scholarship (1903),	27,324.83	
5,767.19	George A. Gardner (1892), . .	5,794.12	
10,951.16	Hennen Jennings Scholarship (1898),	11,045.24	
61,536.43	Abbott Lawrence (1859), . . .	61,536.43	
50,375.00	James Lawrence (1865),	50,375.00	
\$9,320,436.76	. . . Amounts carried forward, . . .	\$187,136.75	\$10,800,996.10

<u>Principal, Aug. 1, 1906.</u>		<u>Principal, July 31, 1906.</u>	
\$9,320.436.76	Amounts brought forward,	\$187,136.75	\$10,800,996.10
527.52	Lawrence Scientific School Loans repaid (balance),	188.00	
	Susan B. Lyman Loan (L. S. S.) (balance),	197.50	
40,805.78	Professorship of Engineering (1847),	40,805.78	
25,000.00	Arthur Rotch (1895),	25,000.00	
5,799.69	Stuart Wadsworth Wheeler (1898),	6,156.28	259,484.26

**GRADUATE SCHOOL OF APPLIED SCIENCE
FUNDS.**

Warren Delano Jr. Loan Scholar- ship. Gift (balance),	250.00	
E. D. Peters Scholarship. Gift (bal.),	250.00	500.00

MUSEUM OF COMPARATIVE ZOOLOGY FUNDS.

32,806.32	Museum of Comparative Zoölogy (bal.),	\$35,714.52	
297,933.10	Agassiz Memorial (1875),	297,933.10	
7,594.01	Teachers' and Pupils' (1875),	7,594.01	
5,554.58	Virginia Barret Gibbs Scholar- ship (1892),	5,567.89	
50,000.00	Gray Fund for Zoölogical Museum (1859),	50,000.00	
108,720.88	Sturgis Hooper (1865),	107,934.77	
7,740.66	Humboldt (1869),	7,740.66	
5,000.00	Willard Peele Hunnewell (1901),	5,000.00	
117,469.34	Permanent (1859),	117,469.34	634,954.29

GERMANIC MUSEUM FUNDS.

Emperor William (1906),	19,315.00	
Unrestricted Gift (balance),	505.15	19,820.15

**PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY
AND ETHNOLOGY FUNDS.**

12,229.05	Hemenway Fellowship (1891), . .	\$12,508.70	
28,355.56	Peabody Building (1866),	28,355.56	
47,335.10	Peabody Collection (1866),	47,335.10	
47,597.25	Peabody Professor (1866),	47,546.64	
30,188.44	Thaw Fellowship (1890),	30,171.24	
10,391.06	Henry C. Warren Exploration (1899),	10,413.09	
5,000.00	Susan Cornelia Warren (1902),	5,000.00	
5,830.23	Robert C. Winthrop Scholarship (1895),	5,801.57	
20,802.76	Huntington Frothingham Wol- cott (1891),	20,725.63	
	Anonymous Gift for South American Expedition (balance),	416.66	208,374.19
\$10,332,617.99	Amounts carried forward,	\$11,924,038.99	

Principal, Aug. 1, 1906.	Principal, July 31, 1906.
\$10,232,617.99 . . Amounts brought forward,	\$11,924,028.99

MEDICAL SCHOOL FUNDS.

5,560.57	Medical School (balance),	
	Anonymous Fund in the Department of Theory and Practice (1906), . .	\$10,059.25
11,324.85	Edward Austin (Bacteriological Laboratory) (1899),	11,573.60
25,512.68	Edward M. Barringer (1881), . .	25,512.68
114,679.35	Robert C. Billings (1900), . .	119,515.13
6,264.02	J. Ingersoll Bowditch (1889), . .	6,242.86
1,891.49	Boylston Fund for Medical Books (1800),	1,477.86
21,899.83	John B. & Buckminster Brown Endowment (1896),	22,437.89
	Bullard Professorship of Neuro- pathology (1906),	50,888.75
93,945.52	Caroline Brewer Croft (1899), . .	94,033.35
383,728.64	Calvin and Lucy Ellis (1899), . .	383,573.64
	George Fabyan Foundation for Comparative Pathology (1906).	
101,917.84	George Fabyan Fund (1896), \$101,459.99	
27,893.82	George Fabyan Fund (addition of 1903, trans- ferred from the Medical School Undertaking),	29,864.12
	George F. Fabyan's additional gift (1906),	75,000.00
1,836.08	Samuel E. Fitz (1884),	1,836.08
3,573.82	F. B. Greenough (Surgical Re- search) (1901),	3,743.23
102,422.36	George Higginson Professorship (1902),	102,777.16
	Jackson Professorship of Clinical Medicine (1859).	
19,192.65	Former Principal,	\$19,192.65
25,000.00	Addition of 1903, trans- ferred from the Medical School Undertaking,	25,000.00
	Elliot C. Lee's gift of 1903, transferred from Medical School Real Estate upon his request,	25,000.00
93,686.99	Henry Jackson Endowment, . .	96,127.75
1,934.45	Medical Library (1872),	2,026.12
\$11,273,882.95 . . Amounts carried forward, . .	\$1,206,841.61	\$11,924,028.99

Principal, Aug. 1, 1904.		Principal, July 31, 1904.
\$11,273,882.95	.. Amounts brought forward, . .	\$1,206,841.61 \$11,924,028.99
58,027.52	William O. Moseley (1897), . .	58,041.05
38,750.00	New Subscription (1888),	38,750.00
407,575.00	Henry L. Pierce (Residuary) (1898),	426,894.05
55,408.64	Proctor (1903),	56,244.54
1,124,077.62	John D. Rockefeller Gift (1902),	1,177,358.92
5,555.21	Gift for Pathological Laboratory, .	5,573.63
9,385.94	Dr. Ruppner (1897),	9,385.94
	George C. Shattuck (1853).	
50,000.00	Former Principal, . . \$50,000.00	
27,000.00	Addition of 1902, trans- ferred from the Medi- cal School Undertak- ing,	27,000.00 77,000.00
114,854.78	James Stillman Professorship (1902),	115,298.91
5,099.84	School of Comparative Medicine (1899),	5,341.58
7,167.76	Surgical Laboratory (1897),	6,889.18
15,765.11	Mary W. Swett (1884),	15,765.11
20,000.00	Samuel W. Swett (1884),	20,000.00
2,000.00	Quincy Tufts (1879),	2,000.00
14,095.83	Warren Fund for Anatomical Mu- seum (1848),	13,651.12
41,968.00	Charles Wilder (1900),	41,896.00
37,382.90	Henry Willard Williams (1893), Medical School Real Estate (special balance),	39,154.85 1,005.12
508.42	Gifts for Anatomical Research (bal.),	633.53
16.26	Gifts for Pathological Dep't Library (balance),	
4,475.03	Sundry Gifts (balances),	5,109.22
FELLOWSHIP FUNDS.		
5,414.55	Geo. Cheyne Shattuck Memorial (1891),	5,446.22
5,850.43	Charles Eliot Ware Memorial (1891),	5,812.72
5,367.40	John Ware Memorial (1891), . .	5,396.80
SCHOLARSHIP FUNDS.		
5,133.23	Anonymous Aid (1905),	5,176.53
5,204.28	Lucius F. Billings (1900), . .	5,250.95
5,815.03	David Williams Cheever (1889),	5,840.66
3,190.45	Cotting Gift (1900),	3,216.66
2,859.48	Orlando W. Doe (1893), . . .	2,935.00
1.27	John Foster income for Medical Students (balance),	151.58
5,749.17	Lewis and Harriet Hayden (1894),	5,712.15
6,490.99	Claudius M. Jones (1893), . .	6,548.66
\$13,859,017.59	.. Amounts carried forward, . .	\$3,369,322.29 \$11,924,028.99

Principal, Aug. 1, 1906.		Principal, July 31, 1906.
\$18,859,017.59	Amounts brought forward, . .	\$3,369,322.29 \$11,924,028.90
5,531.65	Alfred Hosmer Linder (1895),	5,513.87
8,681.81	Joseph Pearson Oliver (1904),	8,768.34
5,792.19	Charles B. Porter (1897), . . .	5,761.73
4,887.76	Charles Pratt Strong (1894), .	5,019.45
6,520.75	Isaac Sweetser (1892),	6,579.85
5,861.50	John Thomson Taylor (1899),	5,415.66
5,476.22	Edward Wigglesworth (1897),	5,585.78

PRIZE FUNDS.

3,796.81	Boylston (1803),	3,964.29
7,488.37	William H. Thorndike (1895),	7,843.30 3,423,724.56

DENTAL SCHOOL FUNDS.

11,346.78	Dental School (balance),	\$12,958.11
2,265.85	Dental School Endowment (1880), .	2,265.85
23,000.00	Henry C. Warren Endowment (1889),	23,000.00
9,615.28	Gifts for Building (1892),	13,622.98
	Harvard Dental Alumni (1906), .	1,622.42
	Dental School Real Estate (balance),	404.55 53,873.91

OBSERVATORY FUNDS.

50,460.00	Advancement of Astron. Science (1901),	\$50,370.00
20,212.51	Advancement of Astron. Science (1902),	18,815.01
5,000.00	Thomas G. Appleton (1884), .	5,000.00
2,500.00	J. Ingersoll Bowditch (1889), .	2,500.00
200,000.00	Uriah A. Boyden (1887), . . .	200,000.00
547.55	Draper Memorial (balance), . .	2,272.51
2,000.00	Charlotte Harris (1877), . . .	2,000.00
45,000.00	Haven (1898),	45,000.00
21,000.00	James Hayward (1866), . . .	21,000.00
50,000.00	Observatory Endowment (1882), .	50,000.00
50,000.00	Paine Professorship (1886), . . .	50,000.00
273,932.07	Robert Treat Paine (1886), . .	273,932.07
110,293.88	Edward B. Phillips (1849), . .	110,293.88
14,125.15	Josiah Quincy (1866),	14,794.67
39,209.03	David Sears (1845),	40,138.28
13,380.00	Augustus Story (1871),	13,380.00
42.35	Gift for publishing lunar photographs,	42.35 899,538.77

BUSSEY INSTITUTION FUNDS.

27,143.83	Bussey Institution (balance), . .	\$28,826.48
18,647.40	Woodland Hill (1895),	18,115.23 46,941.71

ARNOLD ARBORETUM FUNDS.

124,930.00	Arnold Arboretum (1899),	\$125,815.00
160,486.79	James Arnold (1872),	160,867.14
28,905.81	Arboretum Construction Gifts (balance),	29,385.15
12,500.00	Robert Charles Billings (1904),	12,500.00
\$14,729,098.88	Amounts carried forward, . . .	\$328,567.29 \$16,848,107.94

Principal, Aug. 1, 1906.		Principal, July 31, 1906.
\$14,729,098.88	Amounts brought forward, . .	\$328,567.29
28,288.59	William L. Bradley (1897), . .	22,992.49
2,308.06	Bussey Fund for the Arnold Arboretum (1903),	2,308.06
	Francis Skinner (1906),	20,000.00
3,280.79	Gift for books (balance),	24.85
		873,892.69

OTHER FUNDS FOR SPECIAL PURPOSES.

PHILLIPS BROOKS HOUSE.

10,506.66	Phillips Brooks House Endow- ment (1901),	\$10,506.66
11,343.64	Ralph H. Shepard (1900), . . .	11,343.64
6,786.54	Ralph Hamilton Shepard Me- morial (1898),	6,888.76
5,706.27	John W. and Belinda L. Randall (1897),	5,776.73

WILLIAM HAYES FOGG ART MUSEUM.

475.19	Fogg Art Museum (balance), . . .	
50,000.00	William Hayes Fogg (1892), . .	50,000.00
16,483.12	Gray Fund for Engravings (1858),	16,573.77
17,445.05	William M. Prichard (1898), . .	17,831.69
34,252.74	John Witt Randall (1892), . . .	34,620.77

STILLMAN INFIRMARY.

2,312.93	Stillman Infirmary (balance), . .	1,096.74
5,274.92	Stillman Infirmary Gift (balance),	6,430.44
52,460.00	Robert Charles Billings, for Stillman Infirmary (1903), . .	54,946.60
5,590.82	Free Bed Fund of the Class of 1868 (1898),	5,855.84
565.90	Free Bed Fund for Stillman Infir- mary (1900),	592.73
3,147.60	Herbert Schurz Memorial Free Bed (1903),	3,296.82
2,775.82	Henry P. Walcott (1901), . . .	2,907.40

CLASS FUNDS.

1,422.23	Fund of the Class of 1834 (1887),	1,432.23
8,315.59	" " " 1844 (1896),	8,661.67
10,744.45	" " " 1846 (1905),	11,387.10
3,725.00	" " " 1853 (1887),	3,735.00
7,869.00	" " " 1856 (1904),	7,855.50

CONSTRUCTION GIFTS.

421.74	Brighton Marsh Fence (balance), . .	421.74
50,798.38	Emerson Hall, " . .	
447.26	Semitic Building, " . .	442.48
287.17	John Simpkins Hall, " . .	159.47
\$15,067,184.34	Amounts carried forward, . . .	\$262,803.73
		\$16,722,000.63

Principal, Aug. 1, 1906.		Principal, July 31, 1906.
\$15,067,184.84	. . . Amounts brought forward, . . .	\$262,808.73 \$16,722,000.68
278,118.57	George Smith Bequest (1904), .	294,098.50
8,146.41	Stillman Infirmary (Contagious Ward) (balance),	
81,306.15	Gift for new University Library Building (balance),	82,790.06

SUNDRY FUNDS.

482,150.66	Edward Austin (1899),	481,015.07
50,000.00	Bright Legacy (1880),	50,000.00
22,974.70	Bursar's Sundry Accounts (balance),	15,088.08
392,710.18	Bussey Trust (1861),	392,710.18
164,138.13	Calvin and Lucy Ellis Aid (1899),	164,487.94
3,171.50	John Foster (1840),	3,171.50
596,523.01	Gains and Losses for General Invest- ments (1891),	598,969.63
788,865.81	Price Greenleaf (1887),	794,942.67
29,939.33	Henry Harris (1883),	29,939.33
1,387.03	Harvard Memorial Society (1898),	1,452.77
54,132.65	Robert Troup Paine (1880), . .	55,762.48
42,000.00	James Savage (1873),	42,000.00
6,526.38	Gifts for Semitic Museum Collection (balance),	11,553.10
5,009.04	Gifts for Excavations in Palestine (balance),	3,584.73
252.96	Gifts for Cuban Teachers (balance),	137.96
53.70	Sundry balances,	3,234,452.73

FUNDS IN TRUST FOR PURPOSES NOT
CONNECTED WITH THE COLLEGE.

16,685.78	Daniel Williams (1716),	\$16,665.80	
4,800.88	Sarah Winslow (1790),	4,792.55	21,458.35
\$18,086,025.71			\$19,977,911.71

RECEIPTS AND PAYMENTS FOR DEPARTMENTS.**DETAILED STATEMENT.**

The following tables are intended to show in some detail the resources and expenditures of each Department of the University. The receipts include every gift and the income of every Fund, and the payments those for the specific object of every gift and Fund, stated separately except in the case of a general object such as salaries, in which case the payments are merged under the general heading.

If the income of a restricted Fund in any year is not wholly used, the surplus is added to the principal and the addition is temporary or permanent according to the terms of the restriction. Thus there may be a surplus in the restricted income of a Department and yet a deficit in its general account shown previously (see pp. 8-16).

If payments on account of a restricted Fund in any year exceed the income available, the excess is treated as a loan or "advance" from general investments, which must be repaid from the future income of the Fund.

If a gift for immediate use is not wholly spent before the end of the year, the balance is included in the statement of "Funds and Balances" beginning on page 58.

These tables are not found in the Treasurer's books, but are a transcript of the books and form a balanced statement as shown on page 128.

TABLE No. I.
THE UNIVERSITY.

RECEIPTS.

Gift for capital account.

William H. Baldwin, Jr. Bequest,	\$2,000.00	
James C. Carter Fund,	100,000.00	
Richard W. Foster Fund (additional),	12,500.00	
Henry L. Higginson Fund,	20,000.00	\$134,500.00

Income of the following Funds:—

Band Music,	\$54.18	
William H. Baldwin, Jr.	41.38	
Andrew Bigelow,	234.63	
Stanton Blake,	237.00	
Charlotte F. Blanchard,	226.15	
Samuel D. Bradford,	248.85	
James C. Carter,	2,704.98	
John W. Carter,	417.55	
Thomas Cotton,	7.35	
John Cowdin,	1,603.78	
George B. Dorr,	3,873.72	
George Draper,	1,618.70	
R. H. Eddy,	1,896.90	
Harvard Ellis,	4,798.06	
Richard W. Foster,	715.93	
John Davis Williams French,	182.40	
Gore,	975.07	
John C. Gray,	835.09	
Henry Harris ($\frac{1}{2}$ income, see p. 104),	709.55	
Walter Hastings,	434.36	
Henry L. Higginson,	631.98	
George Baxter Hyde,	237.00	
Insurance and Guaranty (part, see p. 124),	1,047.41	
Leonard Jarvis,	799.73	
Henry P. Kidder,	474.00	
Joseph Lee,	334.04	
Theodore Lyman,	474.00	
Israel Munson,	746.55	
Henry S. Nourse (part, see p. 124),	1,350.21	
Francis E. Parker,	3,801.93	
William Perkins,	1,422.00	
Henry L. Pierce (Residuary) (part, see pp. 98, 115),	2,629.51	
President's,	3,021.75	
Retiring Allowance,	17,368.12	
John L. Russell,	1,107.74	
Isaac Sweetser,	2,223.68	
Seth Turner,	237.00	
William F. Weld,	3,340.38	63,122.66

Amount carried forward, **\$197,622.66**

TABLE NO. I, THE UNIVERSITY, CONTINUED.

RECEIPTS.

Amount brought forward,	\$197,623.66	
Balance remaining after dividing the net income among the Funds,	\$1,237 78	
Care of the Sarah Winalow Fund,	5.69	
Sale of catalogues, calendars, directories, &c.,	1,631.16	
" loan,	15.00	
Use of houses by College officers,	1,550.00	
Use of land by Harvard Union,	1,260.00	
Gift for work on Memorial Hall clock,	173.72	6,073.36
		<u>\$308,696.01</u>

PAYMENTS.

Overseers' Expenses.

Printing President's Annual Report,	\$1,228.92	
" Treasurer's " "	464.35	
" other reports, ballots, etc.,	244.17	
Advertising,	61.50	
Auditing Treasurer's accounts,	150.00	
Other expenses,	100.44	\$2,249.38

Office Expenses.

President's,

Clerical services,	\$1,091.25	
Other expenses,	468.67	\$1,559.92

Treasurer's,

Clerical services,	\$1,755.00	
Rent of safes,	750.00	
Other expenses,	791.38	3,296.38

Bursar's,

Clerical services,	\$4,843.43	
Other expenses,	1,922.59	6,766.02

Publication Agent's,

Clerical and other services,	\$2,194.90	
Postage and stationery,	1,251.17	
Other expenses,	835.00	4,281.07

Inspector of Grounds and Buildings,

Clerical and other services,	\$1,164.50	
Improvements and repairs,	413.81	
Other expenses,	222.18	1,799.94

Janitor's,

Improvements and repairs,	\$310.55	
Other expenses,	42.81	353.36

Corporation Rooms (fuel, rent, &c.),	2,537.90	20,594.59
--	----------	-----------

Amount carried forward, \$22,843.97

TABLE NO. I, THE UNIVERSITY, CONTINUED.

PAYMENTS.

Amount brought forward,		\$22,848.97
Salaries.		
President,		
From the University,	\$6,000.00	
" President's Fund,	3,181.68	
" Thomas Cotton Fund,	7.68	\$9,189.31
Treasurer,	6,000.00	
Comptroller,	3,750.00	
Bursar,	4,000.00	
Assistant Bursar,	2,350.00	
Secretary of the Corporation,	3,000.00	
Secretary of the Board of Overseers,	200.00	
Commencement Marshal,	100.00	
Secretary for Appointments,	1,250.00	
Regent,	1,000.00	
Medical Visitor,	3,500.00	
Publication Agent,	2,500.00	
Inspector of Grounds and Buildings,	3,500.00	
Clerks, Treasurer's office,	4,000.00	
Bursar's Assistant,	1,800.00	45,989.31
Retiring Allowances.		
From Retiring Allowance Fund,	\$17,368.12	
" University income,	8,406.02	25,774.14
Memorial Hall and Sanders Theatre.		
Janitor service,	\$160.93	
Lighting,	22.68	
Heating,	1.80	
Supplies,	2.00	
Insurance,	183.29	
Repairs,	437.07	757.72
Payments made from University income on the following accounts :—		
Appleton Chapel (part, see Table XIX, page 121),	\$6,412.53	
Phillips Brooks House (part, see Table XX, page 122),	1,829.41	
William Hayes Fogg Art Museum (part, see Table XVII, page 119),	2,772.49	
Germanic Museum (part, see Table XVI, page 118),	332.72	
Peabody Museum of American Archaeology and Ethnology (part, see Table XIV, page 117), . .	1,248.32	
Semitic Museum (part, see Table XV, page 118),	1,778.82	14,374.29
Amount carried forward,		\$109,739.48

TABLE NO. I, THE UNIVERSITY, CONTINUED.

PAYMENTS.

Amount brought forward,		\$109,739.43
General Expenses.		
Labor,	\$8,702.46	
Watchmen,	2,398.70	
University Gazette,	653.83	
Annual Catalogue,	2,605.75	
Quinquennial Catalogue,	666.90	
Guide Book,	85.00	
Expenses of Medical Visitor,	213.31	
Diplomas,	5.60	
Commencement Day expenses,	550.30	
Expenses on portraits in Memorial Hall,	91.64	
Setting Tablet to President Walker, in Appleton Chapel,	25.00	
Association of American Universities, conference,	25.00	
American Medical Association meetings,	257.56	
American Philosophical and Psychological Association meetings,	166.25	
Other hospitality,	150.70	
Legal services,	25.00	
Mercantile agency,	755.00	
Plank walks,	257.41	
Driveways and gravel walks,	1,050.65	
Watering driveways and streets,	391.75	
Repairs and improvements,	588.44	
Taxes on Harvard Union,	\$4,845.00	
Less repaid by Harvard Union,	4,845.00	
Freight, supplies, and sundries,	557.16	20,323.41
		<u>\$129,962.84</u>

TABLE No. II.
THE COLLEGE.

RECEIPTS.

Gifts for Capital Account.

Julia Amory Appleton Fellowship Fund,	\$30,000.00	
Daniel Austin Fund (additional),	1,576.86	
William H. Baldwin, Jr. 1885 Fund, . .	5,588.96	
Francis James Child Memorial Fund (ad-		
ditional),	50.00	
George H. Emerson Scholarship Fund		
(additional),	20,656.20	
Francis Parkman Fellowship Fund, . .	10,000.00	
Nelson Robinson Jr. Additional Fund, . .	175,000.00	
Robert W. Sayles Fund,	5,000.00	
Teachers' Endowment Fund (additional), . . .	1,108,040.93	
Twenty-fifth Anniversary Fund of the		
Class of 1881,	88,570.00	
Jerome Wheelock Fund (additional), . .	10.00	\$1,429,492.95

Income of Funds for Instruction, and Gifts for Salaries.

Alford Professorship,	\$1,815.30	
John B. Barringer,	1,454.56	
Boylston Professorship,	1,348.17	
Class of 1880 (part, pp. 98, 113),	3,259.48	
Class Subscription,	7,139.29	
Paul Dudley,	170.55	
Eaton Professorship (part, see p. 124), . . .	5,965.17	
Eliot Professorship,	1,024.74	
Eliot " (Jon. Phillips' Gift),	350.00	
Calvin and Lucy Ellis Aid (part, see p. 84),	2,793.47	
Erving Professorship,	165.90	
Fisher "	1,705.97	
Henry Flynt (part, see p. 124),	5.57	
Fund for Permanent Tutors,	769.78	
Godkin Lecture,	618.50	
Gospel Church ($\frac{1}{2}$ income, see p. 124),	160.98	
Asa Gray Professorship,	1,016.78	
Gurney (part, see p. 124),	8,307.94	
Hersey Professorship ($\frac{1}{2}$ income, see p. 104),	574.97	
Hersey Professorship (Thomas Lee's gift),	1,030.67	
Hollis " (Divinity),	1,636.15	
Hollis " (Mathematics),	177.61	
Ingersoll Lecture (part, see p. 86),	143.94	
Abbott Lawrence,	2,916.81	
James Lawrence,	2,387.78	
Lectures on Political Economy,	508.98	

Amounts carried forward,	\$46,988.96	\$1,429,492.95
---	--------------------	-----------------------

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward,	\$46,938.96	\$1,429,492.95
Income of Funds for Instruction, and Gifts for Salaries		
<i>(continued).</i>		
Henry Lee Professorship,	5,208.12	
Thomas Lee, for Reading,	748.78	
Arthur T. Lyman,	1,185.00	
McLean Professorship,	2,041.19	
William Belden Noble Lectures,	1,151.54	
Francis Greenwood Peabody (part, see p. 86),	800.00	
Daniel H. Peirce,	676.21	
Perkins Professorship,	995.40	
Plummer Foundation,	1,185.95	
Pope Professorship,	2,488.50	
Professorship of Engineering,	1,934.30	
Professorship of Hygiene (part, see p. 124),	7,998.08	
Nelson Robinson Jr. (part, see pp. 81, 86),	18,506.49	
Arthur Rotch,	1,185.00	
Rumford Professorship,	2,671.89	
Gurdon Saltonstall,	2,844.00	
Smith Professorship,	1,096.84	
Josiah Stickney,	644.17	
Teachers' Endowment,	77,575.62	
Unknown Memorial (part, see p. 86),	3,028.21	
Henry Villard,	1,670.19	
Henry W. Wales (part, see p. 97). Wales Professorship,	1,500.00	
Henry C. Warren (part, see p. 86),	4,266.67	
Sylvester Waterhouse,	291.46	
David A. Wells (part, see p. 85),	4,500.00	
Jerome Wheelock,	1.28	
Gifts for salaries and lectures,	2,625.00	195,758.70
Income of Funds for General Purposes.		
John W. P. Abbot (accumulating),	\$487.89	
John A. Blanchard,	49.77	
Edward W. Codman (part, see p. 124),	14,655.32	
Jonathan Phillips,	1,493.10	
William M. Spackman,	118.50	
Twenty-fifth Anniversary Fund of the Class of 1881,	353.98	17,158.56
Income of Fellowship Funds, and Gifts for Fellowships.		
Julia Amory Appleton.		
Gift,	\$1,000.00	
Interest,	157.98	1,157.98
Amounts carried forward,	\$1,157.98	\$1,642,410.31

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward,	\$1,157.98	\$1,642,410.21
Income of Fellowship Funds, and Gifts for Fellowships		
<i>(continued).</i>		
Edward Austin (part, see pp. 81, 84, 105, 109).		
Edward Austin Fellowships,	2,000.00	
Austin Teaching "	14,000.00	
Cercle Français de l'Université Harvard (gift),	600.00	
George W. Dillaway,	248.85	
Ozias Goodwin Memorial,	546.24	
Harris,	528.32	
Inter-municipal Committee on Household Research		
(gift),	350.00	
Edward William Hooper,	1,204.43	
John Thornton Kirkland,	518.22	
Henry Lee Memorial,	561.79	
Charles Elliot Norton,	614.22	
Robert Treat Paine,	615.68	
John Parker,	2,794.18	
Francis Parkman,	296.25	
Nelson Robinson Jr. (part, see pp. 80, 86).		
Nelson Robinson Jr. Fellowship, . . .	500.00	
Rogers,	1,529.31	
Henry Bromfield Rogers Memorial, . . .	554.06	
South End House (gifts),	370.00	
John Tyndall,	564.34	
James Walker,	584.72	
Whiting,	1,101.05	81,189.64
Income of Scholarship Funds, and Gifts for Scholarships.		
Abbot,	\$180.93	
Alford (accumulating),	108.10	
Edward Austin (part, see pp. 81, 84, 105, 109).		
Austin Scholarships in Architecture, . . .	300.00	
" " for Teachers,	2,542.66	
Bartlett,	255.96	
Bassett,	269.33	
Bigelow,	632.84	
Borden (accumulating),	128.74	
Bowditch,	5,420.33	
Bright Scholarships.		
Interest on balance,	\$168.08	
Bright Legacy ($\frac{1}{4}$ income, see p. 97), <u>1,185.00</u>	1,353.08	
Browne,	184.20	
Morey Willard Buckminster,	251.74	
Burr,	1,609.80	
Amounts carried forward,	\$13,232.71	\$1,678,599.85

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward, \$18,282.71 \$1,673,599.85

Income of Scholarship Funds, and Gifts for Scholarships

(continued).

Ruluff Sterling Choate,	292.13
Class of 1802,	399.49
“ 1814,	156.18
“ 1815 (Kirkland),	315.83
“ 1817,	219.89
“ 1828,	167.27
“ 1835,	238.94
“ 1841,	246.72
“ 1852 (Dana),	246.67
“ 1856,	756.65
“ 1867,	328.61
“ 1877,	248.28
“ 1883,	287.72
Crowninshield,	579.89
Warren H. Cudworth (gift),	600.00
Francis H. Cummings,	276.48
Warren Delano, Jr. Loan (gift),	250.00
George and Martha Derby,	264.54
Julius Dexter,	244.96
Orlando W. Doe,	135.42
William Samuel Eliot,	261.60
George H. Emerson (part, see p. 124),	1,201.07
Joseph Eveleth (part, see p. 105),	1,365.16
Fall River,	104.09
Farrar,	301.89
Richard Augustine Gambrill,	549.41
Charles Haven Goodwin,	367.82
Benjamin D. Greene,	206.38
Price Greenleaf (part, see pp. 84, 97, 98).	
Price Greenleaf Scholarships,	3,000.00
Harvard Club of Buffalo (gift),	200.00
“ “ Chicago “	300.00
“ “ San Francisco (gift),	450.00
“ “ St. Louis “	300.00
John Appleton Haven,	494.43
William Hilton (part, see p. 105),	698.50
Ebeneser Rockwood Hoar,	518.13
Levina Hoar, for the town of Lincoln,	308.24
R. M. Hodges (part, see p. 98).	
Hodges Scholarship,	284.77
Hollis,	302.41
Henry B. Humphrey,	519.36

Amounts carried forward, \$31,121.64 \$1,673,599.85

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward,		\$81,121.64	\$1,678,599.85
Income of Scholarship Funds, and Gifts for Scholarships			
<i>(continued).</i>			
Hennen Jennings,	519.08		
Charles L. Jones,	1,478.62		
Lawrence Scientific School Association (gift),	150.00		
George Emerson Lowell,	499.92		
Markoe,	252.08		
Matthews Scholarships.			
Interest on balance,	\$155.76		
Matthews Hall, half net rents,	5,100.70	5,256.46	
William Merrick,	296.34		
Morey,	397.78		
Lady Mowlson,	279.00		
Howard Gardner Nichols,	273.07		
Lucy Osgood,	286.49		
George Foster Peabody,	312.66		
Pennoyer,	318.81		
Rebecca A. Perkins,	209.65		
E. D. Peters (gift),	250.00		
Philadelphia,	517.70		
Wendell Phillips Memorial,	78.90		
Ricardo Prize (gift),	350.00		
Rodger,	57.92		
Henry Bromfield Rogers,	166.99		
Edward Russell,	275.54		
Sales,	269.33		
Saltonstall,	537.47		
Leverett Saltonstall,	410.01		
Mary Saltonstall. Income,	\$330.14		
Loan repaid,	100.00	480.14	
James Savage (part, see pp. 98, 114).			
Savage Scholarship,	300.00		
Sever,	154.57		
Sewall,	529.84		
Shattuck,	2,350.90		
Slade,	290.09		
Dunlap Smith,	200.14		
Story,	216.10		
Stoughton, Use of pasture,	\$100.00		
Interest,	82.57	182.57	
Swift,	175.81		
Thayer,	3,782.33		
Gorham Thomas,	204.58		
Toppan,	868.96		
Amounts carried forward,		\$58,741.39	\$1,678,599.85

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward, . . .	\$53,741.39	\$1,673,599.85
Income of Scholarship Funds and Gifts for Scholarships		
<i>(continued).</i>		
Townsend,	1,236.43	
Walcott,	241.22	
Christopher M. Weld,	508.98	
Jacob Wendell,	257.95	
Whiting,	560.65	
Josiah Dwight Whitney,	239.18	
Mary L. Whitney,	517.20	
Charles Wyman,	479.83	
Anonymous Gift for Scholarship use,	100.00	57,872.83
Income of Beneficiary and Loan Funds, and Repayments.		
Rebecca C. Ames.		
Interest,	\$2,444.75	
Loan repaid,	50.00	\$2,494.75
Nathaniel Appleton,	28.62	
Edward Austin (see pp. 81 ² , 105, 109).		
For Loans,	\$1,511.80	
Loans repaid by Special Students,	54.23	1,565.53
Edward Austin Loans Repaid (L. S. S.),	429.86	
Frank Bolles Memorial,	90.20	
William Brattle,	74.79	
Daniel A. Buckley,	4,341.10	
Walter Channing Cabot,	2,403.99	
Thomas Danforth,	51.10	
Moses Day,	258.28	
Calvin and Lucy Ellis Aid (part, see p. 79),	4,002.81	
John Ellery,	20.43	
Exhibitions,	63.19	
Thomas Fitch,	38.35	
Ephraim Flynt,	22.04	
Henry Flynt,	7.68	
Henry Gibbs,	22.89	
John Glover,	151.77	
Price Greenleaf (part, see pp. 82, 97, 98).		
Price Greenleaf Aid,	16,870.78	
Edwin A. W. Harlow,	77.03	
Edward Holyoke,	17.06	
Robert Keayne,	115.70	
Bertram Kimball,	1,185.00	
Lawrence Scientific School Loan, repayments,	556.75	
Mary Lindall,	50.10	
Susan B. Lyman,	297.86	
Anne Mills,	10.71	
Amounts carried forward,	\$34,748.37	\$1,731,472.68

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward, . . . \$34,748.37 \$1,731,472.68

Income of Beneficiary and Loan Funds, and Repayments
(continued).

Munroe ,	516.99	
Palfrey Exhibition ,	97.60	
Dr. Andrew P. Peabody Memorial ,	231.55	
Scholarship and Beneficiary Money Returned.		
Loans repaid,	\$1,445.76	
Gift,	25.00	1,470.76
Joseph Sewall ,	10.24	
Alexander W. Thayer (part, see p. 124), .	231.00	
Quincy Tufts ,	528.75	
Benjamin Wadsworth ,	18.79	
Stuart Wadsworth Wheeler .		
Interest,	\$274.92	
Loans repaid,	81.67	356.59
		38,205.64

Income of Prize Funds, and gifts for prizes.

Anonymous gift for a prize essay in the Department of History and Government (balance), .	\$350.00	
James Gordon Bennett ,	75.79	
Philo Sherman Bennett ,	19.06	
Francis Boott ,	489.22	
Bowdoin Prizes for Dissertations ,	1,474.42	
Boylston Prizes for Elocution ,	157.84	
Coolidge Debating ,	253.50	
Lloyd McKim Garrison ,	127.46	
Edward Hopkins Gift for "Detours."		
From Trustees,	\$208.86	
Interest on balance,	87.45	296.31
Sales ,	51.52	
John O. Sargent ,	127.65	
George B. Sohler (part, see p. 97),	250.00	
Charles Sumner ,	171.59	
Robert N. Toppan ,	185.29	
Philip Washburn ,	104.37	
David A. Wells (part, see p. 80),	914.89	4,948.41

Income of Sundry Funds for Special Purposes.

Botanic Department (part, see p. 112).		
One-fourth for Cryptogamic Herbarium, . .	471.89	
One-eighth for Laboratories of Botany, . .	235.70	
William H. Baldwin, Jr. 1885 ,	198.65	
Francis James Child Memorial ,	542.82	
Classical Publication Fund of the Class of 1856.		
Interest,	\$336.78	
Sales,	156.37	493.15

Amounts carried forward, \$1,941.71 \$1,774,626.73

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward,	\$1,941.71	\$1,774,626.73
Income of Sundry Funds for Special Purposes (<i>continued</i>).		
George A. Gardner,	278.86	
George Silsbee and Ellen Sever Hale, .	250.65	
Harvard Oriental Series,	718.99	
Ingersoll Lecture (part, see p. 79),	143.26	
Music Department,	52.19	
Francis Greenwood Peabody (part, see p. 80),	3,978.87	
Nelson Robinson Jr. (part, see pp. 80, 81),	5,655.78	
Robert W. Sayles,	118.50	
George William Sawin,	219.51	
John E. Thayer,	786.51	
Elizabeth Torrey,	48.11	
Henry Warren Torrey. Interest, .	\$583.44	
Sales, . .	332.38	865.82
Unknown Memorial (part, see p. 80),	1,800.00	
Cyrus M. Warren,	307.58	
Henry C. Warren (part, see p. 80),	1,421.28	
Chauncey Wright,	51.00	18,638.12
Sundry Gifts.		
For the Department of Architecture.		
Gift for equipment,	\$2,500.00	
Interest,	158.14	\$2,658.14
Gift for a painting, interest,		5.31
For the Department of The Classics.		
Gifts for Classical Library,	63.11	
" the Museum of Classical Archaeology,	300.00	
For the Department of Economics.		
For books,	\$200.00	
For maps and charts,	250.00	450.00
For the Department of Education, for books, .	123.39	
For the Department of Mathematics, for books, .	15.00	
For the Department of Mining and Metallurgy.		
Gift,	\$1,450.00	
Interest,	8.01	1,458.01
For the Department of Music. Gifts, .	\$80.00	
Less included in gifts for service in		
Department Libraries,	49.00	31.00
For the Philosophical Library.		
Gifts,	\$4,000.00	
Interest,	18.08	4,018.08
For the Semitic Library. Interest,	2.10	
For extra copies of contributions from the Zoölogical Laboratory,	50.00	
Amounts carried forward,	\$9,169.14	\$1,793,264.85

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward,	\$9,169.14	\$1,793,254.85
Sundry Gifts (<i>continued</i>).		
For the Bermuda Biological Station.		
Gifts,	\$500.00	
Interest,	29.42	529.42
For the Engineering Camp at Squam Lake.		
Gift,	\$790.76	
Interest on balance,	80.00	820.76
For the School for Social Workers. Interest, .		49.14
For the Ethics of the Social Questions. Interest,		67.74
For furnishings of the Department of Social		
Ethics in Emerson Hall. Interest,		150.54
For furnishing Emerson Hall. Interest,		445.81
For equipment of the Psychological Laboratory.		
Interest,		98.68
For evening use of Warren House libraries.		
Gift,	\$47.00	
Less included in gifts for service in		
Department Libraries,	85.00	12.00
For Plantations in the College Yard. Interest, .		67.55
Towards the expenses of the Committee on the		
Publication of Academic Distinctions,	40.00	11,445.78
Receipts from Students.		
Tuition fees, regular courses,	\$395,932.50	
" " Summer Schools,	20,277.50	
" " School for Social Workers,	370.00	\$416,580.00
Examination fees.		
Admission,	\$4,779.52	
Condition, Make-up and Ad-		
vanced Standing,	2,100.00	
Doctor of Philosophy,	60.00	6,939.52
Graduation fees,		7,560.00
Laboratory fees.		
Astronomy,	\$1,165.00	
Botany,	1,085.00	
Chemistry,	14,409.42	
Engineering,	2,426.50	
Engineering, Squam Lake,	2,060.00	
Geology,	1,645.00	
Hygiene,	1,735.00	
Mineralogy,	480.00	
Mining and Metallurgy,	2,568.54	
Philosophy,	100.00	
Physics,	4,798.50	
Zoölogy,	1,500.00	33,972.96
Amounts carried forward,	\$465,052.48	\$1,804,700.63

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward,	\$465,052.48	\$1,804,700.63
Receipts from Students (<i>continued</i>).		
College dormitories,	\$92,986.08	
Less the following items:—		
Receipts from dormitories		
belonging to University		
Houses and Lands ac-		
count, credited under		
income of the Funds		
which constitute the prin-		
cipal of this account, . \$15,897.50		
One-half net income from		
Matthews Hall, credited		
under income of Mat-		
thews Scholarships,	5,100.70	20,998.20
Summer School excursions, surplus,	78.84	537,069.15
Sundries.		
Repayment, in part, of special appropriation for		
specimens for the Department of Mineralogy		
and Petrography,	130.00	
Sale of tickets to Commencement Lunch,	372.50	
“ University Hymn Books,	107.30	
“ Annals of Mathematics,	424.24	
“ Propositions in Geometry,	107.46	
“ Infinite Series,	100.45	
“ Manual of Engineering,	386.69	
“ Elementary Exercises in Physics,	245.26	
“ Hand-book of American History,	151.40	
“ History 1 publications,	481.58	
“ Harvard Psychological Review,	67.95	
“ publications for the Department of the		
Classics,	301.03	
“ publications for the Sanskrit Department,		
old examination papers,	497.04	
“ other publications,	832.81	
“ timber at Squam Lake, \$600.00		
Less commission,	60.00	540.00
Sundry receipts at the Engineering Camp at Squam		
Lake,	11,250.42	
Pasturage, Squam Lake,	40.00	
Interest on bank deposit, Squam Lake account, .	39.12	
“ account of tuition fees paid in advance, .	2,073.78	
Deposits for keys to Department Libraries, . . .	54.12	
Insurance awards,	396.00	18,848.71
		<u>\$2,360,618.49</u>

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

From Fellowship Funds and Gifts.

Julia Amory Appleton,	\$1,000.00	
Edward Austin (part, see pp. 89, 91, 107, 109).		
Edward Austin Fellowships,	2,000.00	
Austin, Teaching "	14,000.00	
Cercle Français de l'Université Harvard,	600.00	
George W. Dillaway,	150.00	
Ozias Goodwin Memorial,	675.00	
Harris,	750.00	
Edward William Hooper,	500.00	
Inter-Municipal Committee on Household Research,	350.00	
Henry Lee Memorial,	450.00	
Charles Eliot Norton,	900.00	
Robert Treat Paine,	500.00	
John Parker,	2,675.00	
Nelson Robinson Jr. (part, see p. 98),		
Nelson Robinson Jr. Fellowship,	500.00	
Rogers,	1,087.50	
South End House,	320.00	
John Tyndall,	500.00	
James Walker,	250.00	
Whiting,	480.00	\$27,687.50

From Scholarship Funds and Gifts.

Abbot,	\$150.00	
Edward Austin (part, see pp. 89, 91, 107, 109).		
Austin Scholarships in Architecture,	\$800.00	
Austin Scholarships for Teachers, <u>2,542.66</u>	2,842.66	
Bartlett,	250.00	
Bassett,	270.00	
Bigelow,	500.00	
Bowditch,	4,930.00	
Bright Scholarships,	1,125.00	
Browne,	150.00	
Morey Willard Buckminster,	120.00	
Burr,	1,280.00	
Ruluff Sterling Choate,	275.00	
Class of 1802,	325.00	
" 1814,	175.00	
" 1815 (Kirkland),	250.00	
" 1817,	175.00	
" 1828,	150.00	
" 1835,	165.00	
" 1841,	200.00	
" 1852 (Dana),	200.00	
Amounts carried forward,	\$13,532.66	\$27,687.50

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amounts brought forward, . . .		\$13,532.66	\$27,687.50
From Scholarship Funds and Gifts (<i>continued</i>).			
Class of 1856,	600.00		
" 1867,	175.00		
" 1877,	280.00		
" 1883,	225.00		
Crowninshield,	540.00		
Warren H. Cudworth,	600.00		
George and Martha Derby,	250.00		
Julius Dexter,	180.00		
Orlando W. Doe,	100.00		
William Samuel Eliot,	250.00		
George H. Emerson (part, see p. 125), . .	675.00		
Joseph Eveleth (part, see p. 107),	1,000.00		
Fall River,	80.00		
Farrar,	250.00		
Richard Augustine Gambrill,	450.00		
Charles Haven Goodwin,	300.00		
Greene,	150.00		
Price Greenleaf (part, see pp. 92, 98).			
Price Greenleaf Scholarships,	3,020.00		
Harvard Club of Buffalo,	280.00		
" " Chicago,	300.00		
" " San Francisco,	450.00		
" " St. Louis,	300.00		
John Appleton Haven,	480.00		
William Hilton,	540.00		
Ebenezer Rockwood Hoar,	425.00		
Levina Hoar, for the town of Lincoln,	350.00		
B. M. Hodges (part, see p. 99).			
Hodges Scholarship,	250.00		
Hollis,	250.00		
Henry B. Humphrey,	450.00		
Hennen Jennings,	425.00		
Charles L. Jones,	1,200.00		
Lawrence Scientific School Association, . . .	150.00		
George Emerson Lowell,	380.00		
Markoe,	150.00		
Matthews,	4,620.00		
William Merrick,	225.00		
Morey,	325.00		
Lady Mowison,	225.00		
Howard Gardner Nichols,	225.00		
Lucy Osgood,	135.00		
George Foster Peabody,	250.00		
Amounts carried forward, . . .		\$35,042.66	\$27,687.50

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amounts brought forward, . . .	\$35,042.66	\$27,687.50
From Scholarship Funds and Gifts (continued).		
Pennoyer,	190.00	
Rebecca A. Perkins,	150.00	
Philadelphia,	425.00	
Ricardo Prize,	350.00	
Henry Bromfield Rogers,	150.00	
Edward Russell,	225.00	
Sales,	200.00	
Saltonstall,	425.00	
Leverett Saltonstall,	325.00	
Mary Saltonstall,	300.00	
James Savage (part).		
Savage Scholarship,	300.00	
Sever,	150.00	
Sewall,	320.00	
Shattuck,	2,100.00	
Slade,	210.00	
Dunlap Smith,	180.00	
Story,	175.00	
Thayer,	3,000.00	
Gorham Thomas,	150.00	
Toppan,	300.00	
Townsend,	1,000.00	
Walcott,	200.00	
Christopher M. Weld,	400.00	
Jacob Wendell,	300.00	
Whiting,	450.00	
Josiah Dwight Whitney,	200.00	
Mary L. Whitney,	300.00	
Charles Wyman,	400.00	
University, Graduate School,	1,400.00	
" Lawrence Scientific School, . . .	1,810.00	
Normal, " " "	600.00	
Architectural League,	300.00	51,527.66
From Beneficiary and Loan Funds.		
Rebecca C. Ames,	\$1,895.00	
Edward Austin (part, see pp. 89 ² , 107, 109).		
Loans to L. S. S. students, . . . \$2,455.00		
" Special " . . . 246.12	2,701.12	
Edward Austin Loans Repaid (L.S.S.), . .	1,277.82	
William Brattle,	74.79	
Walter Channing Cabot,	2,200.00	
Thomas Danforth,	51.10	
Moses Day,	258.28	
Amounts carried forward,	\$8,458.11	\$79,215.16

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amounts brought forward,	\$8,458.11	\$79,215.16
From Beneficiary and Loan Funds (<i>continued</i>).		
Calvin and Lucy Ellis Aid.		
Beneficiaries,	\$3,618.00	
Genealogical expenses,	80.00	3,643.00
Exhibitions,		63.19
Thomas Fitch,		26.10
Price Greenleaf (part, see pp. 90, 98).		
Price Greenleaf Aid,	14,814.75	
Robert Keayne,	115.70	
Bertram Kimball,	1,230.00	
Lawrence Scientific School Loans Repaid, . .	896.27	
Mary Lindall,	50.10	
Susan B. Lyman.		
Loans to College students,	50.00	
Munroe,	516.99	
Palfrey Exhibition,	80.00	
Dr. Andrew P. Peabody Memorial,	137.00	
Quincy Tufts,	528.75	
Scholarship and Beneficiary money returned, . .	763.00	31,372.96
From Prize Funds and Gifts for Prizes.		
Jeremy Belknap (gift),	50.00	
Francis Boott. Expenses,	90.00	
Bowdoin Prizes for Dissertations.		
Prizes,	\$1,100.00	
Expenses,	65.88	1,165.88
Boylston Prizes for Elocution,	255.00	
Coolidge Debating,	200.00	
Lloyd McKim Garrison.		
Prize,	\$100.00	
Expenses,	33.50	133.50
Edward Hopkins Gift for "Deturs,"	178.43	
Sales,	45.00	
John O. Sargent,	200.00	
George B. Schier (part, see p. 99),	250.00	
Robert N. Toppan,	150.00	
Philip Washburn,	75.00	
David A. Wells,	585.60	3,378.40
From Sundry Funds for Special Purposes.		
Francis James Child Memorial, books, . .	\$420.05	
Classical Publication Fund of the Class of 1856.		
Harvard Studies in Classical Philol., \$538.09		
Interest on advances,	69.79	602.88
George A. Gardner, photographs, etc.,		
for the Department of Geology,	246.43	
Amounts carried forward,	\$1,269.36	\$113,966.53

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.			
Amounts brought forward,		\$1,269.36	\$113,966.52
From Sundry Funds for Special Purposes (<i>continued</i>).			
Harvard Oriental Series, publications,		675.00	
Ingersoll Lecture (part), printing,		143.26	
Music Department,		66.47	
Francis Greenwood Peabody, services, . .		250.00	
Nelson Robinson Jr. (part, see p. 89).			
Expenses of Nelson Robinson Jr.			
Hall,		\$4,681.53	
Expenses in Department of Archi-			
tecture,		974.25	5,655.78
George William Sawin, books for Depart-			
ment of Mathematics,		35.20	
Barthold Schlesinger, books for Department			
of German,		19.15	
John E. Thayer, Quarterly Journal of Eco-			
nomics,		724.32	
Elizabeth Torrey, books for Department of			
History,		15.46	
Henry Warren Torrey, for printing Har-			
vard Historical Studies,		535.76	
Unknown Memorial (part), services and expenses,		1,688.41	
Cyrus M. Warren, research in Chemistry, . .		304.89	
Henry C. Warren (part), publications, . . .		6,253.44	17,636.50
From Gifts for Special Purposes.			
For Department of Architecture, books, casts, etc.,		\$1,602.23	
" " Chemistry, books and improve-			
ments,		16.05	
" " The Classics, books, etc.		798.36	
" " Education, books,		31.75	
" " Economics.			
Books and material, \$106.81			
Maps and charts,		100.00	206.31
" " French, books,		7.48	
" " Landscape Architecture,		4.61	
" Lowell Memorial Library, books,		9.85	
" Semitic Library, books,		359.32	
" Bermuda Biological Station,		402.62	
" extra copies of contributions from the Zoölogi-			
cal Laboratory,		50.00	
" School for Social Workers, . . . \$2,414.15			
Less charged to College salaries,		1,500.00	914.15
" Social Questions Library, books,		239.86	
" The Ethics of the Social Questions.			
Sundry expenses,		\$2,633.17	
Less charged to College salaries,		800.00	1,833.17
Amounts carried forward,		\$6,475.76	\$181,608.02

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amounts brought forward,	\$6,475.76	\$131,608.02
From Gifts for Special Purposes (continued).		
For Furnishings for the Department of Social		
Ethics, in Emerson Hall,	12,233.31	
" Furnishing Emerson Hall,	19,872.87	
" Equipment of the Psychological Laboratory,	2,341.55	
" Philosophical Library.		
Books,	\$3,244.63	
Freight,	17.00	3,261.63
" Research in Experimental Phonetics,	51.25	
" A painting,	1,000.00	
" Improvements at the Engineering Camp at Squam Lake, N.H.,	2,203.43	
" Committee on the Publication of Academic Distinctions (part, see p. 96),	40.00	47,479.80
Payments made from College income on the following accounts :—		
Museum of Comparative Zoölogy (part, see Table XIII, page 116),	\$3,877.50	
Jefferson Physical Laboratory (part, see Table XVIII, page 120),	718.11	
Hemenway Gymnasium (part, see Table XXI, page 122),	6,306.40	10,902.01
Summer Schools.		
Salaries,	\$17,864.53	
Secretary,	900.00	
Clerical services,	100.00	
Repairs and improvements,	4.49	
Care and cleaning,	168.65	
Fuel,	9.75	
Water,	41.30	
Lighting,	16.86	
Printing,	995.01	
Stationery and postage,	236.81	
Binding,	1.15	
Advertising,	686.19	
Services and wages,	478.75	
Remission of fees for instruction,	150.00	
Geological and Geographical courses, travelling expenses,	127.01	
Reception,	372.63	
Use of swimming tank,	300.00	
Gymnasium expenses,	151.16	
Instruments and appliances,	168.17	
Restaurant expenses, deficit,	1,893.97	
Supplies, materials, and sundries,	200.39	24,916.82
Amount carried forward,		\$214,901.65

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.		
Amount brought forward,		\$214,901.65
Appropriations for collections, laboratories, etc.		
Anthropology,	\$100.00	
Architecture,	500.00	
Landscape Architecture,	500.00	
Astronomy,	285.00	
Botany,	100.00	
Chemistry,	250.00	
Classics,	50.00	
Fine Arts,	100.00	
Geology and Geography,	125.00	
Mathematics,	77.68	
Mineralogy and Petrography,	350.00	
Mining 12,	400.00	
Music,	125.00	
Physics,	500.00	
Psychology,	150.00	
" for publications,	67.95	
Zoölogy,	200.00	
" for reprints,	50.00	
Laboratory fees appropriated,	28,486.46	
History, for books,	181.91	32,498.95
Salaries.		
Instruction,	\$497,640.72	
Deans,	6,000.00	
Chairmen of Committees,	800.00	
Recorders and Secretaries,	6,700.00	
Examination Proctors,	1,384.00	512,524.72
For College Public Buildings, which are not valued in the Treasurer's books.		
Repairs, improvements, &c.,	\$10,654.03	
Care and cleaning,	13,362.89	
Fuel,	6,621.07	
Water,	355.65	
Lighting,	1,724.60	
Insurance,	825.05	
Electric power,	411.21	
Supplies and sundries,	460.11	
Telephones,	70.25	
Furniture,	234.51	34,719.37
For College Dormitories, which are not valued in the Treasurer's books.		
Repairs and improvements,	\$17,973.84	
Care and cleaning,	14,889.19	
Fuel,	2,455.39	
Water,	1,278.51	
Lighting,	3,625.18	
Insurance,	351.04	
Supplies and sundries,	333.99	40,906.64
Amount carried forward,		\$835,551.38

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amount brought forward,	\$935,551.33	
General Expenses.		
Deans and Chairmen of Committees, clerical and office expenses,	\$18,028.29	
Reading examination books,	3,143.49	
Services of proctors,	1,327.99	
" assistants to instructors,	4,473.25	
" undergraduates,	1,394.75	
" Head Guide in College grounds,	262.50	
Attendants in department laboratories,	1,690.00	
Admission examinations,	3,125.01	
Commencement Lunch,	524.97	
Printing office, expenses,	\$23,880.38	
Less receipts,	15,807.46	8,572.92
Annals of Mathematics,	970.80	
Syllabus in Geometry,	37.10	
Syllabus in History Ia,	5.00	
Studies and Notes in Phil. & Lit., Vol. 10, . . .	150.00	
Reprints from Harvard Graduates' Magazine, .	35.00	
Map of Europe,	76.35	
Telephones,	16.88	
Advertising,	498.55	
Watchmen,	1,402.60	
Legal expenses,	76.40	
Music, Class-Day,	125.00	
Receptions,	63.00	
Use of Grays 18 by English Department,	100.00	
Landscape Architecture, services and supplies, . .	366.35	
Forestry, apparatus and supplies,	456.69	
Mineralogy, microscopes,	270.00	
Moving Psychological Laboratory,	75.00	
Services and expenses at Faculty meetings, . . .	84.26	
" for Regent,	7.60	
" for the Department of Forestry,	14.77	
Blank books for examinations,	522.50	
Expenses of camp at Squam Lake (Engineering),	13,889.54	
Engineering courses in Pierce Hall,	6,528.95	
Travelling expenses in Economics 18,	104.70	
" in Forestry courses,	31.40	
Expenses of delegates,	18.45	
College Entrance Examination Board,	55.90	
Diplomas,	618.19	
Committee on the Publication of Academic Distinctions (part, see p. 94),	24.45	
Lighting College Yard,	182.50	
Rent and moving of pianos,	42.50	
Freight, and sundries,	154.10	69,447.20
		<u>\$904,996.53</u>

TABLE No. III.
THE LIBRARY.

RECEIPTS.

Gifts for Capital Account.

Book Fund of the Class of 1881, \$3,500.00
Income of Book Funds, and Gifts and Receipts for the purchase
of books.

Book Fund of the Class of 1881,	\$109.59	
Nathaniel I. Bowditch,	100.16	
Bright Legacy ($\frac{1}{4}$ income, see p. 81),	1,185.00	
Edwin Conant ($\frac{1}{4}$ income, see p. 98),	329.41	
Constantius ($\frac{1}{4}$ income, see p. 98),	615.42	
Denny,	252.36	
Eliza Farrar,	257.14	
Price Greenleaf (part, see pp. 82, 84, 98),	1,000.00	
Horace A. Haven,	156.80	
Francis B. Hayes,	481.44	
George Hayward,	250.27	
Thomas Hollis,	113.29	
Sidney Homer,	101.91	
Jarvis,	28.84	
Frederick A. Lane,	250.65	
Lowell,	1,275.01	
Charles Minot,	2,863.24	
Charles Eliot Norton,	404.56	
Lucy Osgood,	341.14	
Mary Osgood,	335.73	
Henry L. Pierce (part, see p. 98),	1,910.10	
Francis Sales,	185.38	
Stephen Salisbury,	253.97	
Sever,	955.20	
Samuel Shapleigh,	187.61	
George B. Schier (part, see p. 85),	81.80	
Subscription,	500.02	
Charles Sumner,	1,786.22	
Kenneth Matheson Taylor,	244.54	
Daniel Treadwell ($\frac{1}{4}$ income, see p. 98),	288.29	
Ishabod Tucker,	213.18	
Henry W. Wales (part, see p. 80),	483.34	
James Walker,	759.92	
Thomas W. Ward,	243.45	
J. Huntington Wolcott,	952.12	
Gifts for books,	\$8,987.38	
Interest,	50.72	8,988.10
Sale of duplicate books,	51.19	
Received for books lost,	40.67	
Fines,	404.22	28,976.28
Amount carried forward,		\$32,476.28

TABLE NO. III, THE LIBRARY, CONTINUED.

RECEIPTS.

Amount brought forward,	\$32,476.36	
Income of R. M. Hodges Fund (part, see p. 82).		
For publishing bibliographical contributions,		364.18
Income of Funds for general purposes.		
Daniel Austin ,	\$326.44	
Class of 1880 (part, see pp. 79, 118),	1,000.00	
Edwin Conant ($\frac{1}{2}$ income, see p. 97),	988.22	
Constantius ($\frac{1}{2}$ income, see p. 97),	615.42	
Fund of the Class of 1851 ,	81.90	
" " " " (C. F. Dunbar's Gift),	31.43	
Price Greenleaf (part, see pp. 82, 84, 97),	15,370.77	
Henry T. Morgan ,	3,884.48	
Henry L. Pierce (part, see p. 97),	500.00	
Henry L. Pierce (Residuary) (part, see pp. 75, 115),	2,370.00	
James Savage (part, see pp. 83, 114),	1,368.10	
Daniel Treadwell ($\frac{1}{2}$ income, see p. 97),	288.28	
Eben Wright ,	4,740.00	31,415.04
Fees for use of Library ,	\$95.00	
Sale of Index Subject Catalogues, . . . . .	.68	
" Bibliographical Contributions ,	4.87	
" Memorial Biographies ,	9.00	
Gifts for services ,	2,776.69	2,885.74
		<u>\$67,141.24</u>

PAYMENTS.

For Books, from the following Funds, Gifts, etc.	
Book Fund of the Class of 1881 ,	\$129.84
Bowditch ,	61.32
Bright ,	1,116.38
Edwin Conant ,	436.94
Constantius ,	679.96
Denny ,	206.49
Farrar ,	286.55
Price Greenleaf (part, see pp. 90, 92),	965.57
Haven ,	218.87
Hayes ,	481.14
Hayward ,	232.94
Hollis ,	69.08
Homer ,	124.47
Lane ,	107.85
Lowell ,	901.34
Minot ,	2,972.87
Charles Eliot Norton ,	251.86
Lucy Osgood ,	299.61
Mary Osgood ,	391.26
Amount carried forward,	\$9,984.84

TABLE NO. III, THE LIBRARY, CONTINUED.

PAYMENTS.

Amount brought forward,	\$9,984.84	
For Books, from the following Funds, Gifts, etc. (<i>contin'd</i>).		
Henry L. Pierce,	2,588.90	
Sales,	177.76	
Salisbury,	830.66	
Sever,	1,262.45	
Shapleigh,	184.14	
George B. Sohler (part, see p. 92),	25.50	
Subscription,	488.76	
Sumner,	1,987.89	
Kenneth Matheson Taylor,	840.08	
Daniel Treadwell,	210.43	
Tucker,	472.90	
Wales,	180.81	
Walker,	826.11	
Ward,	118.54	
J. Huntington Wolcott,	525.56	
Sundry gifts for books (balances),	7,811.49	
Duplicate money and receipts for lost books,	186.60	
Fines,	71.27	\$27,478.64
From R. M. Hodges Fund (part, see p. 90).		
For publishing bibliographical contributions,		1,785.00
Salaries,	\$17,675.00	
Services and wages (part, see below),	18,007.86	
Services paid from special gifts (part, see below).		
Including the services of a purchasing agent abroad,	2,281.89	
Repairs and improvements,	662.50	
Care and cleaning,	1,229.96	
Fuel,	1,052.42	
Water,	12.24	
Lighting,	1,086.44	
Printing,	731.86	
Furniture,	406.40	
Stationery and postage,	658.67	
Telephone,	97.85	
Binding,	2,551.26	
Electric power,	85.42	
Freight,	425.28	
Supplies and sundries,	1,028.85	
Maps,	16.50	
Moving books,	87.00	47,991.90
Department Libraries.		
Services and wages.		
Paid from special gifts,	\$84.00	
Remainder,	1,151.16	\$1,235.16
Lighting paid from special gift,	12.00	1,247.16
		\$78,447.70

TABLE No. IV.
DIVINITY SCHOOL.

RECEIPTS.

Gift for Capital Account.

Daniel Austin Fund (additional),	\$235.36
--	----------

Income of Funds for Instruction, or for general purposes.

Divinity School (balance),	\$525.52	
Endowment,	3,385.64	
Oliver Ames,	805.80	
Hannah C. Andrews,	24.89	
Daniel Austin,	46.64	
Adams Ayer,	47.40	
Joseph Baker,	724.04	
Beneficiary money returned (balance),	9.05	
Bussey Professorship,	1,781.48	
Bussey Trust (part, see pp. 102, 110, 124),	3,256.16	
Joshua Clapp,	108.24	
Edwin Conant,	237.00	
Dexter Lectureship,	1,210.79	
Frothingham Professorship,	2,545.52	
Abraham W. Fuller,	49.77	
Lewis Gould,	43 18	
John Hancock Professorship,	\$284.78	
Charles L. Hancock (part, see p. 124),	4,648.18	
Haven,	237.00	
Samuel Hoar,	49.77	
Henry P. Kidder,	474.00	
Henry Lienow,	435.37	
Caroline Merriam,	49.77	
Parkman Professorship,	759.16	
John W. Quinby,	26.35	
Abby Crocker Richmond,	47.40	
John L. Russell,	47.40	
William B. Spooner,	474.00	
Thomas Tileston of New York Endowment,	1,896.00	
Mary P. Townsend,	248.85	
Winthrop Ward,	99.54	
Winn Professorship,	2,647.10	26,935.96
Interest on account of tuition fees paid in advance,		28.30
Income of Scholarship, Beneficiary and Prize Funds.		
Robert Charles Billings, for prizes,	\$120.06	
Abner W. Buttrick,	630.66	
Thomas Cary,	270.04	
George Chapman,	132.48	
Joshua Clapp,	214.72	

Amounts carried forward,	\$1,367.96	\$27,189.43
------------------------------------	------------	-------------

TABLE NO. IV, DIVINITY SCHOOL, CONTINUED.

RECEIPTS.

Amounts brought forward, . . .	\$1,367.96	\$27,189.42
Income of Scholarship, etc. (<i>continued</i>).		
Jackson Foundation ,	714.56	
J. Henry Kendall ,	261.98	
Nancy Kendall ,	166.28	
William Pomroy ,	49.77	2,560.55
Income of Book Funds.		
Rushton Dashwood Burr ,	\$211.02	
Louisa J. Hall ,	38.92	249.94
Receipts from Students.		
Tuition fees, regular courses,	\$5,885.00	
" " Summer School,	1,020.00	
Divinity Hall,	2,872.80	
Library fines,	7.60	9,284.90
Gift from Society for Promoting Theological Education,	\$1,501.40	
Sale of tickets to Alumni Dinner,	52.00	
" Catalogues,	2.75	
" duplicate books,	3.00	1,559.15
		<u>\$40,848.96</u>

PAYMENTS.

From Scholarship Funds.		
Thomas Cary ,	\$240.00	
George Chapman ,	100.00	
Joshua Clapp ,	180.00	
Jackson Foundation ,	640.00	
J. Henry Kendall ,	200.00	
Nancy Kendall ,	140.00	\$1,500.00
From Beneficiary Funds.		
Abner W. Buttrick ,	\$575.00	
William Pomroy ,	51.66	626.66
From Robert Charles Billings Fund, prize,		100.00
From Book Funds.		
Rushton Dashwood Burr ,	\$89.82	
Louisa J. Hall ,	2.85	92.17
Salaries for instruction,	\$31,718.85	
Summer School. Salaries for instruction,	\$1,125.00	
Printing and other expenses,	209.10	1,334.10
Secretary and Librarian,	1,750.00	
Services and wages,	251.28	
Library Assistants,	1,201.42	
Repairs, improvements, and labor,	591.64	
Insurance,	102.79	
Care and cleaning,	1,827.15	
Amounts carried forward,	\$38,772.23	\$2,818.83

TABLE NO. IV, DIVINITY SCHOOL, CONTINUED.

PAYMENTS.

Amounts brought forward,	\$38,772.23	\$2,318.83
Fuel,	592.61	
Water,	105.56	
Lighting,	279.23	
Printing,	134.25	
Furniture,	108.38	
Stationery and postage,	82.59	
Telephone,	20.58	
Books,	556.06	
Binding,	83.45	
Advertising,	403.15	
Diplomas,	1.75	
Alumni dinner,	65.00	
Proportion of expenses of Gymnasium (see Table XXI, page 122),	82.86	
Tuning and repairing organ,	13.73	
American School for oriental study and research in Palestine (sixth payment),	100.00	
Subscriptions to the Fellowship in Christian Archaeology in the American School of Classical Studies in Rome, Sundries,	25.00 67.23	41,493.65
		<u>\$43,812.48</u>

TABLE NO. V.

LAW SCHOOL.

RECEIPTS.

Gifts for Capital Account.

James C. Carter Professorship Fund,	\$100,000.00
James Coolidge Carter Loan Fund,	12,000.00
George Fisher Scholarship Fund,	3,500.00
Hughes Loan Fund (additional),	750.00
	<u>\$116,250.00</u>

Income of Funds and Gifts.

Law School, balance,	\$15,196.15
James Barr Ames Loan,	24.79
James Barr Ames Prize,	251.60
Gift of James Munson Barnard and Augusta Barnard. Gift,	\$2,000.00
Interest,	21.82
	<u>2,021.81</u>
Bemis Professorship,	3,539.03
Bussey Professorship,	1,136.65
Bussey Trust (part, see pp. 100, 110, 124),	3,256.16
James C. Carter Professorship,	2,764.98
James Coolidge Carter Loan,	47.40

Amounts carried forward, \$38,238.57 \$116,250.00

TABLE NO. V, LAW SCHOOL, CONTINUED.

RECEIPTS.

Amounts brought forward,	\$28,238.57	\$116,250.00
Income of Funds and Gifts (continued).		
Dane Professorship,	746.55	
George Fisher Scholarship. Interest, . \$13.84		
Gift, . . . 51.00	64.84	
Hughes Loan. Interest, \$6.12		
Repayments, 87.50	93.62	
Law School Book,	2,228.80	
Law School Library,	4,740.00	
Royall Professorship,	895.86	
Weld "	4,502.76	
Scholarship Money Returned. Interest, . \$51.52		
Repayment, . 29.00	80.52	41,091.02
Interest on account of tuition fees paid in advance,	560.91	
Tuition fees,	107,090.00	
Sale of books,	119.81	
Unredeemed locker deposits,	89.00	
		<u>\$265,200.24</u>

PAYMENTS.

(See also CONSTRUCTION ACCOUNTS, Table XXIV, p. 121.)

From Beneficiary and Loan Funds.

Hughes Loan,	\$153.67	
Scholarship Money Returned,	671.33	\$825.00
Scholarships from unrestricted income,	\$6,750.00	
Salaries for instruction,	55,883.88	
Librarians and Assistants,	10,072.26	
Secretary,	1,000.00	
Services of examiners and proctors,	400.50	
Repairs and improvements,	313.98	
Care and cleaning,	1,578.11	
Fuel,	697.24	
Water,	68.45	
Lighting,	1,380.70	
Printing,	366.94	
Furniture,	379.83	
Stationery and postage,	594.62	
Telephone,	77.71	
Books,	13,738.75	
Binding,	2,324.53	
Cleaning and moving books,	202.00	
Advertising,	150.00	
Insurance,	183.73	
Amounts carried forward,	\$95,662.68	\$825.00

TABLE NO. V, LAW SCHOOL, CONTINUED.

PAYMENTS.

Amounts brought forward,	\$95,662.68	\$825.00
Freight,	563.32	
Proportion of expenses of Gymnasium (see Table XXI, page 122),	1,605.71	
Travelling expenses,	34.79	
Electric power,	112.84	
Catalogue,	269.64	
Diplomas,	83.52	
Sundries,	364.12	98,696.63
		<u>\$99,521.63</u>

TABLE NO. VI.

MEDICAL SCHOOL.

RECEIPTS.

(See also CONSTRUCTION ACCOUNTS, Table XXIV, page 125.)

Gifts for Capital Account.

Anonymous Fund in the Department of Theory and Practice,	\$10,000.00	
Bullard Professorship of Neuropathology Fund, .	50,000.00	
George Fabyan Foundation for Comparative Pathology (additional),	75,000.00	\$135,000.00

Income of Funds for Instruction, or for general purposes.

Medical School, balance,	\$263.59	
Anonymous Fund in the Department of Theory and Practice,	59.25	
Edward M. Barringer (part, see p. 105), . .	659.32	
Robert C. Billings,	5,435.78	
John B. and Buckminster Brown,	1,038.06	
Bullard Professorship of Neuro-Pathology, . . .	888.75	
Calvin and Lucy Ellis (part, see p. 124), . . .	16,900.08	
George Fabyan Foundation for Comparative Pathology (part, see p. 106),	5,512.45	
Samuel E. Fitz,	87.03	
Henry Harris ($\frac{1}{4}$ income, see p. 75),	709.56	
Hersey Professorship ($\frac{2}{3}$ income, see p. 79), . .	883.32	
George Higginson,	4,854.80	
Henry Jackson Endowment,	4,440.76	
Jackson Professorship of Clinical Medicine, . .	3,279.75	

Amounts carried forward, \$44,512.50 \$135,000.00

TABLE NO. VI, MEDICAL SCHOOL, CONTINUED.

RECEIPTS.

Amounts brought forward,		\$44,512.50	\$135,000.00
Income of Instruction Funds (<i>continued</i>).			
William O. Moseley,	2,513.53		
New subscription,	1,886.75		
Henry L. Pierce (Residuary),	19,319.05		
Dr. Ruppenner,	442.53		
George C. Shattuck,	3,539.03		
James Stillman Professorship,	5,444.13		
Mary W. Swett,	747.27		
Samuel W. Swett,	948.00		
Quincy Tufts,	94.80		
Henry Willard Williams,	1,771.95	81,169.54	
Interest on account of tuition fees paid in advance,			253.15
Income of Fellowship Funds.			
Edward Austin (part, see pp. 81 ^a , 84, 109).			
Austin Teaching Fellowships,	\$2,000.00		
George Cheyne Shattuck Memorial,	256.67		
Charles Eliot Ware "	277.29		
John Ware "	254.40	2,788.36	
Income of Scholarship and Aid Funds.			
Anonymous Aid,	\$243.30		
Edward M. Barringer (part, see p. 104), . .	550.00		
Lucius F. Billings,	246.67		
David Williams Cheever,	275.63		
Cotting Gift,	151.21		
Orlando W. Doe,	135.52		
Joseph Eveleth (part, see p. 82),	600.00		
John Foster, for Medical students and for Law students in alternate years,	150.31		
Lewis and Harriet Hayden,	272.50		
William Hilton (part, see p. 82),	450.00		
Claudius M. Jones,	307.67		
Alfred Hosmer Linder,	262.22		
Joseph Pearson Oliver,	411.53		
Charles B. Porter,	274.54		
Charles Pratt Strong,	281.69		
Isaac Sweetser,	309.10		
John Thomson Taylor,	254.16		
Edward Wigglesworth,	259.56	5,885.61	
Income of Prize Funds.			
Ward Nicholas Boylston,	\$179.98		
William H. Thorndike,	354.93	534.91	
Amount carried forward,		\$225,181.57	

TABLE NO. VI, MEDICAL SCHOOL, CONTINUED.

RECEIPTS.

Amount brought forward,	\$225,131.57	
Income of Sundry Funds and Gifts for special purposes.		
Edward Austin (Bacteriological Laboratory), . .	\$586.81	
J. Ingersoll Bowditch,	296.91	
Boylston, for Medical Books,	89.63	
Caroline Brewer Croft (part, see p. 124), . .	2,169.13	
George Fabyan Foundation for Comparative Pathology (part, see p. 104),	788.76	
F. B. Greenough (surgical research),	169.41	
Medical Library,	91.67	
Proctor, for the study of Chronic Diseases, . .	2,626.15	
School of Comparative Medicine,	241.74	
Surgical Laboratory,	339.76	
Warren Fund for Anatomical Museum,	668.10	
Gifts for present use,	85.38	8,103.45
Sale of land.		
Options,	\$1,000.00	
Interest,	5.12	1,005.12
Gifts for present use,		8,865.00
For heat and power supplied to the House of the Good Samaritan, .		2,020.35
Advertising,		375.00
Receipts from students.		
Tuition fees, regular courses,	\$48,330.75	
" " graduate courses,	2,713.00	
" " Dental students,	2,400.00	
" " summer courses,	9,897.00	
" " Physiology, special course,	25.00	\$63,365.75
Graduation fees,	2,290.00	
Matriculation fees,	375.00	
Examination fees,	258.00	
Laboratory fees and supplies.		
Anatomy,	\$792.00	
Chemistry,	863.35	
Embryology,	205.10	
Histology,	158.00	
Operative Surgery,	189.00	
Physiology,	311.05	2,518.50
Use of microscopes,	283.00	69,000.35
		<u>\$314,580.74</u>

TABLE NO. VI, MEDICAL SCHOOL, CONTINUED.

PAYMENTS.

(See also CONSTRUCTION ACCOUNTS, Table XXIV, page 126.)

From Fellowship Funds.

Edward Austin (part, see pp. 89², 91, 109).

Austin Teaching Fellowship,	\$2,000.00	
George Cheyne Shattuck Memorial,	225.00	
Charles Eliot Ware Memorial,	315.00	
John Ware Memorial,	225.00	\$2,765.00

From Scholarship and Aid Funds.

Anonymous Aid,	\$200.00	
Edward M. Barringer (part),	550.00	
Lucius F. Billings,	200.00	
David Williams Cheever,	250.00	
Cotting Gift,	125.00	
Orlando W. Doe,	60.00	
Joseph Eveleth (part, see p. 90),	600.00	
Lewis and Harriet Hayden,	309.52	
William Hilton (part),	450.00	
Claudius M. Jones,	250.00	
Alfred Hosmer Linder,	280.00	
Joseph Pearson Oliver,	825.00	
Charles B. Porter,	305.00	
Charles Pratt Strong,	100.00	
Isaac Sweetser,	250.00	
John Thomson Taylor,	200.00	
Edward Wigglesworth,	200.00	4,654.52

From Prize Fund.

Boylston, advertising,	12.50
----------------------------------	-------

From Sundry Funds and Gifts for special purposes.

Edward Austin (Bacteriological Laboratory), .	\$288.06	
Robert C. Billings, Journal of Medical Research,	600.00	
J. Ingersoll Bowditch, Physiology,	318.57	
Boylston, Medical Books,	503.26	
Caroline Brewer Croft (part), cancer investigations,	581.30	
George Fabyan Foundation for Comparative Pathology (part), services,	788.76	
Gifts for Anatomical Research,	192.23	
Gifts for Pathological Department Library,	445.77	
Proctor, for the study of Chronic Diseases, . . .	1,785.25	
Surgical Laboratory,	718.34	
Warren Fund for Anatomical Museum,	1,112.31	
Sundry Gifts (balances),	\$7,419.34	
Less paid for salaries,	3,700.00	3,719.34
		11,058.19

Real Estate. Expenses,	\$2,370.86	
Less receipts,	2,264.17	106.69
Amount carried forward,		\$18,591.90

TABLE NO. VI, MEDICAL SCHOOL, CONTINUED.

PAYMENTS.

Amount brought forward,		\$18,591.90	
Appropriations.			
Anatomy,	\$1,900.00		
Bacteriology,	500.00		
Chemistry,	2,093.46		
Histology and Embryology,	2,055.10		
Hygiene,	300.00		
Museum,	200.00		
Obstetrics,	100.00		
Pathology,	800.00		
Pharmacology and Therapeutics,	700.00		
Physiology,	3,464.39		
Surgery,	450.00		
Theory and Practice,	150.00	12,712.95	
Graduate courses, fees repaid to Instructors,	\$2,663.00		
Summer " " " "	6,497.00	9,160.00	
Salaries for instruction,		83,041.67	
Retiring allowance,		1,000.00	
General Expenses.			
Dean, Secretary, and Curator,	\$2,500.00		
Clerical services,	1,743.00		
Repairs and improvements,	116.46		
Care and cleaning,	5,074.12		
Fuel,	1,988.04		
Water,	1,159.20		
Lighting and gas,	2,711.18		
Printing,	732.61		
Furniture,	29.46		
Stationery and postage,	245.45		
Telephone,	153.11		
Advertising and catalogues,	1,195.00		
Insurance,	963.50		
Proctors,	53.00		
Mechanics and laboratory attendants,	6,933.47		
Electric power,	1,043.10		
Diplomas,	39.35		
Time service,	25.00		
American Medical Association meetings,	92.12		
Removing brown-tail moths,	51.50		
Supplies and material,	869.19		
Sundries,	435.91	28,153.77	
		<u>\$152,660.39</u>	

TABLE No. VII.
DENTAL SCHOOL.

RECEIPTS.

Income of Funds and Gifts.

Edward Austin (part, see pp. 81², 84, 105).

Austin Teaching Fellowship ,	\$500.00	
Dental School, balance,	587.85	
Dental School Endowment,	107.41	
Henry C. Warren Endowment ,	1,090.30	

Gifts for building.

Harvard Dental Alumni Gifts , . . .	\$1,614.81	
Other Gifts,	8,500.00	
Interest,	515.81	5,630.12
Interest on tuition fees paid in advance,		\$7,865.58
		67.62

Receipts from students.

Tuition fees, regular courses,	\$12,910.00	
“ “ special “	25.00	
“ “ summer “	450.00	
	\$13,385.00	
Less transferred to Medical School,	2,400.00	\$10,985.00
Examination fees,	334.00	
Laboratory fees,	4,336.37	
Use of microscopes,	10.00	
Chemistry, breakage and supplies,	166.07	15,831.44
Fees from infirmary,		6,105.10
Sale of gold, platinum and sweepings,	\$601.35	
“ scraps and old materials,	81.35	
“ pamphlets and catalogues,	9.00	691.70
Receipts from real estate.		749.88
		<u>\$31,811.27</u>

PAYMENTS.

Summer courses, fees repaid to Instructors,	\$225.00	
Edward Austin (part, see pp. 89 ² , 91, 107).		
Austin Teaching Fellowship ,	500.00	
Real Estate.		
Taxes,	\$87.58	
Expenses,	310.76	398.34
Salaries for instruction,	\$8,550.00	
Curator and Librarian,	100.00	
Secretary,	400.00	
Proctors,	37.00	
Repairs and improvements,	585.99	
Care and cleaning,	1,277.37	
Amounts carried forward,	\$10,950.86	\$1,123.34

TABLE NO. VII, DENTAL SCHOOL, CONTINUED.

PAYMENTS.

Amounts brought forward,	\$10,950.36	\$1,123.34
Fuel,	614.22	
Water,	96.10	
Lighting,	556.41	
Printing,	322.44	
Furniture,	26.80	
Instruments and apparatus,	334.00	
Stationery and postage,	340.91	
Telephone,	102.85	
Books,	2.50	
Advertising,	645.66	
Services and wages,	1,611.11	
Diplomas,	34.81	
Annual Catalogue,	94.95	
Quinquennial Catalogue,	356.05	
Expenses in preparing for a new building,	90.65	
Supplies, &c.,	5,712.27	
Sundries,	702.85	22,594.94
		<u>\$23,718.38</u>

TABLE NO. VIII.

BUSSEY INSTITUTION.

RECEIPTS.

Income of Funds.

Bussey Institution. Interest on balance,	\$1,286.62	
Bussey Trust (part, see pp. 100, 102, 124),	6,512.32	\$7,798.94
Tuition fees,		8,570.00
Interest on tuition fees paid in advance,		16.34
Sale of wood, hay and sundries,	\$64.86	
“ horse,	110.00	
Horticultural Departm't, prizes, sale of flowers, plants, &c.,	1,911.05	
Board of animals,	4,724.49	
Use of houses by College officers,	723.87	
For book lost,	1.00	7,535.37
		<u>\$18,920.55</u>

PAYMENTS.

Salaries,	\$8,200.00
Services and wages,	8,125.33
Repairs and improvements,	1,250.46
Fuel,	391.50
Lighting,	21.98
Water,	36.80
Printing,	3.60
Stationery and postage,	17.66
Amount carried forward,	<u>\$18,047.33</u>

TABLE No. VIII, BUSSEY INSTITUTION, CONTINUED.

PAYMENTS.

Amount brought forward,	\$18,047.83	
Books,	98.18	
Catalogue,	10.80	
Binding,	81.10	
Advertising,	48.35	
Horticultural Department, expenses,	1,877.48	
Grain, farming tools, &c.,	2,076.45	
Diplomas,	1.00	
Legal expenses,	15.00	
Sundries,	37.26	\$17,237.90

TABLE No. IX.

ARNOLD ARBORETUM.

RECEIPTS.

Gifts for capital account.

Arnold Arboretum Fund (additional),	\$885.00	
Francis Skinner Fund,	20,000.00	\$20,885.00

Income of Funds and of Gifts.

Arboretum Construction Gifts. Interest on balance,	\$613.57	
Arnold Arboretum,	5,936.14	
James Arnold,	7,607.08	
Robert Charles Billings (part),	652.90	
William L. Bradley,	1,108.90	
Francis Skinner,	474.00	
Bussey, for the Arnold Arboretum,	109.40	
Gift for books,	24.24	16,521.23

Gifts for present use, \$1,375.00

“ real estate and construction, 5,900.00

Use of barn, 165.00

Sale of grass and materials, 2,512.95 9,952.95

\$47,359.18

PAYMENTS.

From William L. Bradley Fund, bibliography,	\$1,400.00	
Books from gifts,		3,280.18
Salaries of Director and Assistant,	\$3,500.00	
Repairs and improvements,	3,969.96	
Labor,	7,904.47	
Fuel,	848.56	
Water,	57.00	
Furniture,	52.40	
Stationery and postage,	186.60	
Printing,	11.10	

Amounts carried forward, \$15,980.09 \$4,880.18

TABLE NO. IX, ARNOLD ARBORETUM, CONTINUED.

PAYMENTS.

Amounts brought forward,	\$15,980.09	\$4,680.18
Services and wages,	6,601.22	
Supplies, tools, and materials,	881.80	
Taxes,	332.80	
Freight,	296.95	
Expenses of expeditions for collecting,	390.25	
Sundries,	3.74	24,486.35
		<u>\$29,166.53</u>

TABLE NO. X.

BOTANIC GARDEN AND BOTANIC MUSEUM.

RECEIPTS.

Income of Funds.			
Botanic Department ($\frac{1}{2}$ income, see p. 85),	\$1,178.48		
Lowell, for a Botanic Garden,	3,147.69		
John L. Russell ($\frac{1}{2}$ income, see p. 113),	23.70		\$4,349.87
Gifts.			
Gift for cases. Interest,	23.91		
Gift for sugar cane investigations.			
Additional Gift,	\$1,000.00		
Interest,	22.70	1,022.70	
Other gifts for immediate use,	4,200.00		5,246.61
Use of house,			700.00
			<u>\$10,296.48</u>

PAYMENTS.

From gift for cases,		\$213.84
" for sugar-cane investigations,		353.96
Services and wages,	\$437.00	
Labor,	5,057.19	
Care and cleaning,	11.50	
Repairs and improvements,	1,381.07	
Fuel,	778.31	
Water,	153.33	
Furniture,	170.00	
Stationery and postage,	7.30	
Telephone,	47.80	
Printing,	13.00	
Taxes,	171.00	
Electric power, . . . . .	.95	
Interest on advances,	404.41	
Supplies and sundries,	819.68	9,452.54
Expedition to the West Indies,		700.00
		<u>\$10,730.34</u>

TABLE No. XI.
GRAY HERBARIUM.

RECEIPTS.

Income of Funds.

Gray Herbarium (balance),	\$41.81	
Robert Charles Billings,	711.00	
Asa Gray Memorial,	1,545.76	
Herbarium,	979.09	
John L. Russell ($\frac{1}{4}$ income, see p. 112),	71.10	\$3,848.76
Asa Gray's copyrights,		776.79
Gifts for immediate use,		5,880.00
Sale of publications,	\$45.84	
" contributions,	2.60	
" card index,	2,616.86	
" check lists, . . . . .	.18	
Commission on sale of Sullivant's Icones,	6.48	2,671.96
		<u>\$12,177.51</u>

PAYMENTS.

Salaries,	\$4,808.83	
Services and wages,	2,488.18	
Care and cleaning,	199.42	
Repairs and improvements,	50.87	
Furniture,	1,065.00	
Stationery and postage,	83.97	
Telephone,	8.90	
Printing,	518.79	
Books,	1,020.80	
Binding,	128.00	
Advertising,	4.00	
Insurance,	22.50	
Supplies and sundries,	1,481.49	\$11,825.20

TABLE No. XII.
OBSERVATORY.

RECEIPTS.

Income of Funds and Gift.

Advancement of Astronomical Science (1902).

Interest (part, see p. 124),	\$648.66	
Sales,	224.06	\$872.72
Thomas G. Appleton,	287.00	
J. Ingersoll Bowditch,	118 50	
Uriah A. Boyden,	9,326.23	
Class of 1880 (part, see pp. 79, 98),	500.00	
Charlotte Harris,	94.80	
Amount carried forward,		\$11,149.25

TABLE NO. XII, OBSERVATORY, CONTINUED.

RECEIPTS.

Amount brought forward,	\$11,149.25	
Income of Funds and Gifts (<i>continued</i>).		
Haven,	2,183.00	
James Hayward,	995.40	
Observatory Endowment,	2,370.00	
Paine Professorship,	2,370.00	
Robert Treat Paine,	12,984.37	
Edward B. Phillips,	5,227.94	
Josiah Quincy,	669.52	
James Savage ($\frac{1}{4}$ net income, see pp. 83, 98), .	422.70	
David Sears,	1,858.51	
Augustus Story,	634.21	\$40,814.90
Mrs. Henry Draper, gift for special research (addi- tional),	\$10,000.00	
Interest,	25.98	10,025.98
Gift for present use,		5,500.00
Use of house by College officer,	\$600.00	
Sale of Annals,	35.18	
“ photographs,	2.00	
“ photometers,	144.96	
“ slides,	28.00	
“ grass,	25.00	836.09
		<u>\$57,175.97</u>

PAYMENTS.

From Anonymous Gift (1902),		\$875.13
“ Advancement of Astronomical Science Fund (1902)		
(part, see p. 135),	\$2,375.80	
Less amount included in general expenses, .	2,100.77	175.03
“ Uriah A. Boyden Fund, supplies, apparatus, services, &c.,		11,817.96
“ Draper Memorial, supplies, apparatus, services, &c.,	\$8,301.02	
Less amount included in salaries,	2,500.00	5,801.02
Salaries,	\$17,100.00	
Services and wages,	7,156.11	
Repairs and improvements,	3,422.24	
Sidewalks,	381.18	
Care and cleaning,	598.25	
Labor,	1,594.00	
Fuel,	807.15	
Water,	76.71	
Lighting,	238.56	
Printing,	1,341.82	
Furniture,	644.99	
Instruments and apparatus,	1,753.59	
Amounts carried forward,	\$35,114.60	\$18,669.16

TABLE NO. XII, OBSERVATORY, CONTINUED.

PAYMENTS.

Amounts brought forward,	\$35,114.60	\$18,669.16
Stationery, postage and telegraphing,	1,118.89	
Telephone,	85.23	
Books,	392.87	
Binding,	432.63	
Insurance,	65.94	
Freight,	288.23	
Use of house,	90.00	
Electric power,	66.62	
Interest on advances,	273.33	
Supplies and materials,	2,016.35	
Sundries,	13.85	89,953.04
		<u>\$58,622.20</u>

TABLE NO. XIII.

MUSEUM OF COMPARATIVE ZOOLOGY.

RECEIPTS.

Income of Funds.

Museum of Comparative Zoölogy (balance), . . .	\$1,531.30	
Agassiz Memorial,	14,122.02	
Teachers and Pupils,	359.96	
Virginia Barret Gibbs Scholarship,	263.31	
Gray Fund for Zoölogical Museum,	2,370.00	
Sturgis Hooper,	5,109.39	
Humboldt,	366.92	
Willard Peele Hunnewell,	237.00	
Permanent Fund for Museum of Zoölogy,	5,568.03	
Henry L. Pierce (Residuary), (part, see pp. 75, 98),	4,740.00	\$34,667.93
Gift for present use,		5,000.00
Use of lecture rooms by Radcliffe College,	\$700.00	
Sales of publications,	580.62	1,280.62
		<u>\$40,948.55</u>

PAYMENTS.

From Sturgis Hooper Fund.

Salary of Sturgis Hooper Professor,	\$5,500.00	
Expenses,	895.45	\$5,895.45
From Virginia Barret Gibbs Scholarship Fund, scholarship,		250.00
Salaries,	\$10,475.00	
Services and wages,	3,395.00	
Repairs and improvements,	1,047.84	
Care and cleaning,	3,607.42	
Amounts carried forward,	\$18,525.26	\$6,145.45

TABLE NO. XIII, MUSEUM OF COMPARATIVE ZOOLOGY, CONTINUED.

PAYMENTS.			
Amounts brought forward,	\$18,525.26	\$6,145.45	
Fuel,	3,247.33		
Water,	56.35		
Gas,	16.98		
Printing,	2,972.38		
Cases,	2,697.19		
Furniture,	318.23		
Instruments and apparatus,	151.96		
Stationery and postage,	233.25		
Telephone,	38.39		
Books,	1,824.52		
Binding,	1,015.50		
Watchmen,	686.00		
Collections,	2,312.41		
Freight,	468.48		
Supplies and sundries,	1,480.92		
	<u>\$36,045.15</u>		
Less the following items which were paid from College income (see Table II, page 94) :—			
Heating and service,	\$3,037.50		
Librarian's salary (part),	250.00		
Watchman (part),	240.00		
Publishing contributions from the Laboratories of Geography and Zoölogy, . . .	350.00	3,877.50	32,167.65
			<u>\$38,318.10</u>

TABLE NO. XIV.
PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY
AND ETHNOLOGY.

RECEIPTS.			
Income of Funds.			
Hemenway Fellowship,	\$579.65		
Peabody Building,	1,420.68		
Peabody Collection,	2,371.54		
Peabody Professor,	2,371.54		
Thaw Fellowship,	1,155.99		
Henry C. Warren Exploration,	492.53		
Susan Cornelia Warren,	237.00		
Robert C. Winthrop Scholarship,	276.34		
Huntington Frothingham Wolcott,	986.06	\$9,891.33	
Use of heating plant,		75.00	
Gifts.			
For South American expedition,	\$416.66		
For other present uses,	625.00	1,041.66	
Total of receipts, carried forward,		<u>\$11,007.99</u>	

TABLE NO. XIV, PEABODY MUSEUM, CONTINUED.

Total of receipts, brought forward,		<u>\$11,007.99</u>
PAYMENTS.		
From Henry C. Warren Fund, explorations,	\$470.50	
“ Huntington Frothingham Wolcott Fund, specimens,	1,063.19	
Hemenway Fellowship,	800.00	
Thaw Fellowship,	1,173.19	
Robert C. Winthrop Scholarship,	305.00	
Salary of Professor and Curator,	\$2,422.15	
Services and wages,	2,456.87	
Repairs and improvements,	34.36	
*Care and cleaning,	1,045.35	
*Fuel,	192.70	
Water,	25.00	
*Lighting,	10.27	
Printing,	43.65	
Furniture,	148.66	
Stationery and postage,	136.14	
Insurance,	75.00	
Telephone,	31.21	
Books,	65.19	
Binding,	27.15	
Collections and expenses,	354.98	
Explorations,	840.58	
Freight,	294.36	
Supplies,	187.97	
Sundries,	55.70	
Interest on advances,	89.15	
	<u>\$8,536.44</u>	
Less the items marked *, which were paid from University income (see Table I, page 77),	1,248.32	7,288.12
		<u>\$10,600.00</u>

TABLE NO. XV.

SEMITIC MUSEUM.

RECEIPTS.

Gifts for Semitic Collection.		
Gifts,	\$11,608.56	
Interest,	199.78	\$11,808.34
Gift for excavations in Palestine. Interest,	75.69	
		<u>\$11,884.03</u>

PAYMENTS.

From gift for excavations in Palestine,	\$1,500.00	
From gifts for Semitic Collection,	6,781.62	\$8,281.62
Amount carried forward,		<u>\$8,281.62</u>

TABLE NO. XV, SEMITIC MUSEUM, CONTINUED.

PAYMENTS.

Amount brought forward,	\$8,281.63
General expenses.	
Curator,	\$500.00
Repairs and improvements,	13.05
Services and wages,	3.03
Care and cleaning,	634.50
Fuel,	240.53
Water,	34.20
Lighting,	4.67
Furniture,	104.74
Printing,	57.00
Electric power,	43.81
Stationery and postage,	21.53
Supplies and sundries,	46.76
Use of Peabody Museum heating plant,	75.00
These general expenses were paid from University income (see Table I, page 77),	\$1,778.82
	<u>\$8,281.63</u>

TABLE NO. XVI.
GERMANIC MUSEUM.

RECEIPTS.

Gifts for Capital Account.	
Emperor William Fund,	\$19,315.00
Income of Funds and Gifts.	
Emperor William,	\$318.24
Gift for opening the Museum on Sunday and Thursday afternoons,	200.00
Unrestricted gift. Gift,	\$500.00
Interest,	5.15
	<u>505.15</u>
	<u>1,023.39</u>
	<u>\$30,538.39</u>

PAYMENTS.

General expenses.	
Repairs and improvements,	\$25.85
Care and cleaning,	357.58
Fuel,	109.78
Water,	5.00
Lighting,	52.53
Insurance,	9.80
Electric power,	46.82
Sunday and Thursday opening of Museum,	242.00
Supplies and sundries,	1.60
	<u>\$850.96</u>
Less the amount which was paid from University income (see Table I, page 77),	332.72
	<u>\$518.24</u>

TABLE No. XVII.
WILLIAM HAYES FOGG ART MUSEUM.

RECEIPTS.

Income of Funds.

William Hayes Fogg Art Museum balance.		
Interest,	\$32.52	
William Hayes Fogg,	2,370.00	
Gray Fund for Engravings,	781.29	
William M. Prichard,	826.89	
John Witt Randall,	1,628.59	
Mary R. Searle,	90.15	\$5,714.44
Sale of photographs and catalogue,		9.60
		<u>\$5,724.04</u>

PAYMENTS.

From the following Funds and balance :—

Gray Fund for Engravings.		
Curator,	\$250.00	
Collections,	300.00	
Expenses,	140.64	690.64
William M. Prichard, collections,		440.25
John Witt Randall.		
Curator,	\$250.00	
Collections,	146.20	
Expenses,	859.36	1,255.56
Mary R. Searle, books,		29.39
William Hayes Fogg Fund and Art Museum balance.		
Director,	\$500.00	
Services and wages,	1,373.82	
*Care and cleaning,	1,578.33	
Repairs and improvements,	239.15	
*Fuel,	1,028.16	
*Water,	16.43	
*Lighting,	105.49	
Furniture,	344.66	
Printing,	7.05	
Binding,	3.20	
Insurance on Loeb bronzes,	240.00	
*Telephone,	13.15	
*Stationery and postage,	22.43	
Work on collections,	178.85	
*Electric power,	\$29.60	
Less credits,	21.10	8.50
Supplies and sundries,	84.26	
	\$5,743.48	
Less the items marked *, which were paid from University income (see Table I, page 77),	2,772.49	2,970.99
		<u>\$5,886.83</u>

TABLE No. XVIII.
JEFFERSON PHYSICAL LABORATORY.

RECEIPTS.

Income of Funds.

Jefferson Physical Laboratory (balance),	\$98.92	
Physical Laboratory Endowment,	3,555.00	
Joseph Lovering,	379.15	\$4,033.07
T. Jefferson Coolidge, for Research in Physics.		
Loans to be used in place of income.		
Loan,	\$1,325.00	
Interest,	2.23	\$1,327.23
Loan,	2,000.00	3,327.23
		<u>\$7,360.29</u>

PAYMENTS.

Research in Physics, from

T. Jefferson Coolidge Fund,	\$1,781.53	
Joseph Lovering Fund,	355.23	\$2,136.76
Dynamo,	\$84.00	
Instruments and apparatus,	602.00	
Printing,	5.35	
Repairs,	118.11	
Care and cleaning,	1,022.41	
Fuel,	415.21	
Water,	19.68	
Lighting,	365.00	
Telephone,	61.62	
Insurance,	205.24	
Services and wages,	1,348.00	
Electric power,	275.02	
Supplies and sundries,	2.90	
	<u>\$4,524.54</u>	
Less the following, paid from College income (see Table II, page 94) :—		
Repairs,	\$118.11	
Fuel, services, etc.,	600.00	718.11
		<u>\$5,943.19</u>

TABLE No. XIX.
APPLETON CHAPEL.

RECEIPTS.

Income of Funds.

Fund for Religious Services,	\$49.01	
Increase Sumner Wheeler,	2,370.00	
Total of receipts, carried forward,		\$2,419.01

TABLE No. XIX, APPLETON CHAPEL, CONTINUED.

Total of receipts, brought forward, \$2,419.01

PAYMENTS.

Preaching and morning services,	\$3,207.95	
Administrator,	400.00	
Organist and Choir-master,	2,000.00	
Choir,	1,600.00	
Repairs and improvements,	161.81	
Care and cleaning,	897.74	
Fuel,	855.09	
Water,	2.82	
Lighting,	232.55	
Furniture,	67.68	
Printing,	6.60	
Music,	274.85	
Binding,	85.50	
Electric power,	17.45	
Repairing and tuning organ,	33.06	
Sundries,	38.44	
	<u>\$8,831.54</u>	
Less the amount which was paid from University income (see Table I, page 77),	6,412.53	<u>\$2,419.01</u>

TABLE No. XX.

PHILLIPS BROOKS HOUSE.

RECEIPTS.

Income of Funds.

Phillips Brooks House Endowment,	\$498.08	
John W. and Belinda L. Randall,	270.46	
Ralph H. Shepard,	587.71	
Ralph Hamilton Shepard Memorial,	321.70	<u>\$1,627.90</u>
		<u>\$1,627.90</u>

PAYMENTS.

From John W. and Belinda L. Randall Fund.

Social Service Committee,		\$300.00
Secretary of Phillips Brooks House Association,	\$500.00	
Repairs,	141.44	
Care and cleaning,	1,115.32	
Fuel,	412.82	
Water,	62.90	
Lighting,	109.56	
Furniture,	1.12	
Books,	24.68	
Insurance,	70.71	
Receptions,	864.22	
Printing annual report,	51.50	
Rent of piano,	40.00	
Amounts carried forward,	<u>\$2,894.22</u>	<u>\$300.00</u>

TABLE NO. XX, PHILLIPS BROOKS HOUSE, CONTINUED.

PAYMENTS.

Amounts brought forward,	\$2,894.22	\$200.00
Social Service Investigation,	50.00	
Supplies and sundries,	140.41	
	<u>\$3,084.63</u>	
Less the following items, which were paid from University income (see Table I, page 77) :—		
Repairs and improvements,	\$141.44	
Care and cleaning,	1,017.82	
Fuel,	412.82	
Water,	62.90	
Lighting,	109.56	
Insurance,	70.71	
Supplies and sundries,	14.16	
	<u>1,829.41</u>	<u>1,255.22</u>
		<u>\$1,455.22</u>

TABLE NO. XXI.

HEMENWAY GYMNASIUM.

RECEIPTS.

Fees for the use of		
Lockers, by students,	\$2,959.00	
Gymnasium, by graduates,	60.00	
Gymnasium, by members of the Episcopal Theological School,	108.12	<u>\$3,127.12</u>

PAYMENTS.

Salaries,	\$5,000.00	
Services and wages,	981.28	
Repairs and improvements,	329.54	
Care and cleaning,	2,394.59	
Fuel,	767.24	
Apparatus,	450.00	
Insurance,	176.51	
Water,	275.90	
Lighting,	584.86	
Printing,	61.22	
Stationery and postage,	15.77	
Telephone,	37.47	
Supplies and sundries,	47.71	
	<u>\$11,122.09</u>	
Less the following items :—		
Charged to Divinity School (see Table IV, page 102),	\$82.86	
Charged to Law School (see Table V, page 104),	1,605.71	
Charged to The College (see Table II, page 94),	6,306.40	
	<u>7,994.97</u>	<u>\$3,127.12</u>

TABLE No. XXII.
STILLMAN INFIRMARY.

RECEIPTS.

Income of Funds and of Gifts.

Stillman Infirmary (interest on balance),	\$109.64	
Robert Charles Billings, for Stillman Infirmary,	2,486.60	
Free Bed Fund of the Class of 1868,	265.02	
" " for the Stillman Infirmary,	26.83	
Herbert Schurz Memorial Free Bed Fund,	149.22	
Stillman Infirmary Gift. Interest on balance, . .	322.32	
Henry P. Walcott,	131.58	
Samuel Ward (part),	769.44	\$4,260.65

Receipts from Students.

Infirmary annual fees,	\$14,204.00	
Receipts from patients,	4,727.48	18,931.48
		<u>\$23,192.18</u>

PAYMENTS.

Services and wages,	\$6,183.67	
Janitors and cleaning,	3,087.81	
Repairs and improvements,	1,016.35	
Fuel,	2,296.13	
Water,	277.92	
Lighting,	561.27	
Furniture,	456.28	
Insurance,	90.00	
Stationery and postage,	43.98	
Telephone,	145.08	
Printing,	12.90	
Electric power,	25.90	
Food and supplies,	5,969.85	
Sundries,	90.87	\$20,257.31

TABLE No. XXIII.

RECEIPTS.

Gift for Capital Account.

Fund of the Class of 1846 (additional),	\$130.02
Income of Funds, Gifts, &c.	
Advancement of Astronomical Science (1901),	2,370.00
“ “ “ “ (1902) (part, see p. 113),	648.66
Bussey Trust (part, see pp. 100, 102, 110),	4,000.00
Class of 1834 ,	60.00
Class of 1844 ,	346.08
“ 1846 ,	512.63
“ 1853 ,	149.00
“ 1856 ,	355.50
Edward W. Codman (part, see p. 80),	117.50
Caroline Brewer Croft (part, see p. 106),	2,263.81
Eaton Professorship (part, see p. 79),	36.25
Calvin and Lucy Ellis (part, see p. 104),	123.29
George H. Emerson Scholarship (part, see p. 82),	136.57
Henry Flynt (part, see p. 79),	15.00
Gospel Church ($\frac{1}{2}$ income, see p. 79),	160.92
Gurney (part, see p. 79),	1,000.00
Charles L. Hancock (part, see p. 100),	89.00
Harvard Memorial Society ,	65.74
Insurance and Guaranty Fund (part, see p. 75),	21.68
Henry S. Nourse (part, see p. 75),	1,021.80
Robert Troup Paine (accumulating),	1,629.83
Professorship of Hygiene (part, see p. 80),	3,466.82
George Smith Bequest (part, see p. 125),	925.00
Alexander W. Thayer (part, see p. 85),	480.00
Charles Wilder ,	1,896.00
Daniel Williams ,	790.92
Sarah Winslow ,	227.57
Woodland Hill. Use of laboratory ,	750.00
	<hr/>
	\$23,789.59

PAYMENTS.

From the following Funds and Gifts.

Advancement of Astronomical Science (1901), annuity, . . .	\$2,460.00
“ “ “ “ (1902) (part), annuity, . . .	643.08
Bussey Trust (part), annuities,	4,000.00
Class of 1853, Secretary of the Class,	149.00
“ 1856, “ “ “ “	369.00
Edward W. Codman (part). Real estate in Nahant.	
Taxes,	\$112.50
Other expenses,	5.00
	117.50
Caroline Brewer Croft (part), annuity,	2,263.81
Eaton Professorship (part), legal expenses,	36.25
Calvin and Lucy Ellis (part), taxes and expenses,	123.29
Calvin and Lucy Ellis Aid, legal services,	10.00
George H. Emerson Scholarship (part, see p. 90).	
Taxes,	\$110.68
Legal expenses,	25.00
Other expenses, . . . . .	.89
	136.57
Amount carried forward,	\$10,306.50

TABLE NO. XXIII, SUNDRY FUNDS FOR SPECIAL PURPOSES, CONT'D.

PAYMENTS.

Amount brought forward,	\$10,308.50	
Henry Flynt (part) , legal services,	15.00	
Gifts for Cuban Teachers, expenses,	115.00	
Gurney (part) , annuities,	1,000.00	
Charles L. Hancock (part) , taxes on Chelsea real estate,	89.00	
Insurance and Guaranty Fund (part). Estate in Lucas St., Boston.		
Sewer assessment,	\$38.48	
Less receipts,	16.80	21.68
Henry S. Nourse (part) . Annuity,	\$1,000.00	
Legal and other expenses,	21.80	1,021.80
Professorship of Hygiene (part), annuity,		3,564.57
George Smith Bequest . Annuities,	\$900.00	
Rent of safe,	25.00	925.00
Alexander W. Thayer , annuity,		480.00
Charles Wilder , annuities,		1,968.00
Daniel Williams .		
Treasurer of Mashpee Indians,	\$546.28	
" " Herring Pond Indians,	264.62	810.90
Sarah Winslow .		
Teacher at Tyngsborough, Mass.,	\$115.11	
Minister " " "	115.10	
Commission on income, credited to University,	5.69	235.90
Woodland Hill .		
Taxes,	\$1,081.60	
Legal expenses,	75.00	
Services,	25.00	
Interest on advances,	100.57	1,282.17
		\$21,887.52

TABLE NO. XXIV.

CONSTRUCTION ACCOUNTS.

RECEIPTS.

Emerson Hall . Interest on balance,	\$777.95	
New University Library Building Gifts . Interest on balance,	1,488.91	
George Smith Bequest (accumulating) (part, see p. 124) ,	13,027.43	
Medical School Undertaking .		
J. Pierpont Morgan , for buildings,	\$249,000.00	
John D. Rockefeller Gift . Interest on balance, 53,281.30		
Gift for Pathological Laboratory. Interest,	263.31	302,544.61
Gifts for Improvements and Additions to The Soldier's Field ,		10,000.00
		\$327,833.90

TABLE NO. XXIV, CONSTRUCTION ACCOUNTS, CONTINUED.

PAYMENTS.

Emerson Hall , construction,			\$54,945.14
Langdell Hall (for the Law Library), construction,			16,580.35
Semitic Building and furniture,			4.83
John Simpkins Laboratories , Department of Mining and Metallurgy, equipment,			137.70
Medical School Undertaking.			
From Gifts for Pathological Laboratory,		\$244.89	
Real Estate.			
Additional land,	\$1,500.00		
Taxes accrued before purchase,	11.04		
Legal services,	30.65		
Surveys and plans,	72.50		
Interest on advances,	15,395.15	16,999.34	
Construction.			
Buildings,	\$619,716.00		
Interest on advances,	21,519.51	641,235.51	658,479.74
Stillman Infirmary Gift. Construction, main building,			2,313.21
Gifts for Improvements and Additions to The Soldier's Field.			
Stadium. Interest on advances,			2,779.34
			<u>\$735,180.11</u>

TABLE NO. XXV.

SUNDRY ACCOUNTS.

RECEIPTS.

Bursar's Sundry Accounts ,		\$462,564.45	
Advances from General Investments to			
Anonymous Gift for Observatory,	\$875.13		
Book Fund of the Class of 1881 ,	30.25		
Botanic Department,	902.67		
Uriah A. Boyden Fund ,	2,491.75		
Classical Publication Fund of the Class of 1856 ,	109.73		
Edwin Conant Book Fund ,	10.00		
Dental School Real Estate,	53.06		
Department of Economics,	60.00		
Emerson Hall ,	3,368.81		
William Hayes Fogg Art Museum ,	93.68		
Lloyd McKim Garrison Fund ,	6.04		
R. M. Hodges Fund ,	247.56		
Medical School,	5,553.39		
Medical School Undertaking,	432,331.19		
Peabody Museum of American Archaeology and Ethnology ,	136.75		
Schlesinger Fund ,	1.63		
Sever Book Fund ,	154.98	446,406.61	
Amount carried forward,		<u>\$908,991.06</u>	

TABLE NO. XXV, SUNDRY ACCOUNTS, CONTINUED.

RECEIPTS.

Amount brought forward,	\$908,991.06	
Gains and Losses for General Investments. Gain on sales.		
\$100,000 Chicago & Alton 4% Coll. Notes of 1907,	587.50	
154,500 Eastern 1st M. 6's of 1906,	458.87	
100,000 Missouri Pacific 5% Notes of 1906,	1,000.00	
50,000 Penn'a Co. Coll. Tr. 4½% Notes of 1905,	<u>401.25</u>	2,447.62
Gains from changes of Special Investments.		
Edward W. Codman Fund.		
Gain on sales as follows:—		
10 shares Boston & Albany,	\$48.75	
55 " Boston & Lowell,	268.12	
63 " Boston & Maine,	181.12	
29 " Old Colony,	114.00	
37 " Père Marquette, preferred,	69.87	
25 " Hotel Trust,	<u>115.63</u>	796.99
Price Greenleaf Fund.		
Gain on sale of 317 shares Boston & Maine, com.,	6,077.36	
Henry S. Nourse.		
Gain on sale of 3 shares Penn'a Steel Co., com.,	146.62	
George Smith Bequest.		
Gain on sale of 115 shares Boatmen's Bank of		
St. Louis,	7,947.50	14,968.47
		<u>\$926,407.15</u>

PAYMENTS.

Bursar's Sundry Accounts,	\$470,521.07	
Advances from General Investments, repaid by		
T. Jefferson Coolidge Fund,	\$1,076.08	
Department of Education Library,	91.64	
Gifts for Improvements and Additions to The		
Soldier's Field, on account of the Stadium,	7,230.76	
James Loeb's Gift,	6.81	
Sales Book Fund,	5.69	
Thomas W. Ward Book Fund,	<u>114.45</u>	8,515.88
Losses from changes of Special Investment.		
Daniel A. Buckley Fund.		
Loss on sale of real estate in Cambridge,	\$51.02	
David A. Wells Fund.		
Loss on sale of 10 shares Walter A. Wood M. &		
R. Machine Co.,	<u>441.88</u>	492.40
Sundry balances,		<u>58.70</u>
		\$479,582.55

BALANCED SUMMARY OF THE TABLES.

Table.	Receipts.	Payments.
I. University,	\$203,696.01	\$129,962.84
II. College,	2,860,618.49	904,998.53
III. Library,	67,141.24	78,447.70
IV. Divinity School,	40,843.96	43,812.48
V. Law School,	265,200.24	99,521.62
VI. Medical School,	314,580.74	152,660.29
VII. Dental School,	31,311.27	23,718.28
VIII. Bussey Institution,	18,920.55	17,237.90
IX. Arnold Arboretum,	47,359.18	29,166.53
X. Botanic Garden and Botanic Museum, .	10,296.48	10,720.34
XI. Gray Herbarium,	12,177.51	11,325.20
XII. Observatory,	57,175.97	58,622.20
XIII. Museum of Comparative Zoölogy, . . .	40,948.55	38,313.10
XIV. Peabody Museum of American Archae- ology and Ethnology,	11,007.99	10,600.00
XV. Semitic Museum,	11,884.03	8,281.62
XVI. Germanic Museum,	20,338.39	518.24
XVII. William Hayes Fogg Art Museum, . .	5,724.04	5,386.83
XVIII. Jefferson Physical Laboratory, . . .	7,860.29	5,943.19
XIX. Appleton Chapel,	2,419.01	2,419.01
XX. Phillips Brooks House,	1,627.90	1,455.22
XXI. Hemenway Gymnasium,	3,127.12	3,127.12
XXII. Stillman Infirmary,	23,192.13	20,257.31
XXIII. Sundry Funds for Special Purposes, . .	23,789.59	21,837.52
XXIV. Construction Accounts,	327,833.90	735,180.11
XXV. Sundry Accounts,	926,407.15	479,582.55
	\$4,834,981.73	\$2,893,095.73

Total amount of receipts,	\$4,834,981.73	
Less gifts for capital account,	1,859,298.23	\$2,975,683.50
Total amount of payments,		<u>2,893,095.73</u>
Balance, which is the net increase of Funds and bal- ances, excluding gifts for capital, as is also shown on page 7,		\$82,587.77

Certificate of the Committees of the Corporation and Overseers of Harvard College, for examining the Accounts of the Treasurer.

The committees appointed by the Corporation and Overseers of Harvard College to examine the accounts of the Treasurer for the year ending July 31, 1906, have, with the assistance of an expert chosen by them, examined and audited the Cash-book and Journal covering the period from August 1, 1905, to July 31, 1906, inclusive, and have seen that all the bonds, notes, mortgages, certificates of stock, and other evidences of property, which were on hand at the beginning of said year, or have been received by him during said year, are now in his possession, or are fully accounted for by entries made therein; they have also noticed all payments, both of principal and interest, indorsed on any of said bonds or notes, and have seen that the amounts so indorsed have been duly credited to the College.

They have in like manner satisfied themselves that all the entries for moneys expended by the Treasurer, or charged in his books to the College, are well vouched; such of them as are not supported by counter entries being proved by regular vouchers and receipts.

They have also seen that all the entries for said year are duly transferred to the Ledger, and that the accounts there are rightly cast, and the balances carried forward correctly to new accounts.

(Signed)

HENRY P. WALCOTT,

Committee on the part of the Corporation.

MOSES WILLIAMS,
WILLIAM C. ENDICOTT,
GRAFTON ST. L. ABBOTT,
ALLAN FORBES,
JOHN L. SALTONSTALL,
RICHARD C. STOREY.

Committee on the part of the Board of Overseers.

Boston, January 5, 1907.

INDEX

Titles which appear in the table of Funds and Balances, beginning on page 58, are in full face type.

Figures in *italics* represent payments; in Roman type, receipts.

Two or more entries on a page are indicated by a small figure at the right of the page number: 20^a indicates three entries of receipts on page 20.

Abbreviations are used as follows:—

<i>A.</i> ,	Arnold Arboretum;	<i>M.</i> ,	Medical School;
<i>B.</i> ,	Book Funds;	<i>M.S.U.</i> ,	Medical School Undertaking;
<i>Be.</i> ,	Beneficiary and Loan Funds;	<i>O.</i> ,	Observatory;
<i>C.</i> ,	College;	<i>P.</i> ,	Professorship Funds;
<i>D.</i> ,	Divinity School;	<i>Pr.</i> ,	Prize Funds;
<i>F.</i> ,	Fellowship Funds;	<i>S.</i> ,	Scholarship Funds;
<i>L.</i> ,	Law School;	<i>U.</i> ,	University.
<i>L.S.S.</i> ,	Lawrence Scientific School.		

Abbot (*S.*), 62, 81, 89.

Abbot, J. W. P., 59, 80.

Advancement of Astronomical Science (1901), 39, 71, 124, 124.

Advancement of Astronomical Science (1902), 39, 44, 50, 71, 113, 114, 124, 124.

Advances from General Investments, 126, 127.

Agassiz Memorial, 68, 115.

Aid to Students, total, 6.

Alford (*P.*), 59, 79.

Alford (*S.*), 62, 81.

Ames, J. B. (Loan), 67, 102.

Ames, J. B. (*Pr.*), 50, 67, 102.

Ames, O., 66, 100.

Ames, R. C. (*Be.*), 64, 84, 91.

Anatomical Research, 28, 70, 107.

Andrews, H. C., 66, 100.

Annuities, 39, 124, 125.

Anonymous (*O.*), 114, 126.

Anonymous, History (*Pr.*), 22, 64, 85.

Anonymous (*S.*), 21, 63, 84.

Anonymous Aid (*Be.*), 70, 105, 107.

Anonymous Fund in the Department of Theory and Practice, 17, 42, 69, 104².

Anonymous Gift (*M.*), 29.

Anonymous Gift for South American Expedition (balance), 68.

Anthropology, 28, 95.

Appleton Chapel, 31, 37, 77, 123.

Tables, 15, 120, 121.

Appleton, J. A. (*F.*), 20, 21, 42, 61, 79, 80, 89.

Appleton, N. (*Be.*), 64, 84.

Appleton, T. G., 71, 118.

Appropriations, 31, 95, 108.

Arboretum Construction, 29, 71, 111.

Architecture, 61, 86, 93², 95.

Arnold Arboretum, 17⁷, 42, 71, 111².

Arnold Arboretum, 29⁷, 33, 123.

Funds, 71, 72.

Tables, 12, 111, 111.

Arnold Arboretum, Books, 72.

Arnold, J., 71, 111.

Austin, D. (*C.*), 17, 42, 59, 79, 98.

Austin, D. (*D.*), 17, 42, 66, 100².

Austin, E., 73, 81⁴, 84², 89², 91, 105, 107, 109, 109.

Austin, E. (Bacteriological Laboratory), 69, 106, 107.

Austin, E., Loans Repaid (*Be.*), 67, 84, 91.

Ayer, A., 66, 100.

Bacteriological Laboratory, 28, 106.

Baker, J., 66, 100.

Balance (Remainder) of Income, General Investments, 5, 76.

Baldwin, W. H. Jr. (*U.*), 17², 42, 53, 75².

Baldwin, W. H. Jr. 1885, 18, 42, 59, 79, 85.

Band Music, 53, 75.

Barnard, J. M. and A. (*L.*), 67, 102.

Barringer, E. M., 69, 104, 105, 107.

Barringer, J. B., 67, 79.

Bartlett (*S.*), 62, 81, 89.

Bassett (*S.*), 62, 81, 89.

Belknap, J. (*Pr.*), 64, 92.

- Bemis (P.),** 67, 102.
Beneficiary and Loan Funds, 64.
 Receipts, 22, 84, 85, 100.
 Payments, 31, 91, 92, 101, 103.
Beneficiary Money Returned (D.), 66, 100.
Bennett, J. G. (Pr.), 64, 85.
Bennett, P. S. (Pr.), 64, 85.
Bermuda Biological Station, 28, 87, 93.
Bigelow (S.), 62, 81, 89.
Bigelow, A., 58, 75.
Billings, L. F. (S.), 70, 105, 107.
Billings, R. C. (A.), 51, 71, 111.
Billings, R. C. (Gray Herbarium), 59, 113.
Billings, R. C. (M.S.), 69, 104, 107.
Billings, R. C. (Pr.), 67, 100, 101.
Billings, R. C. (Stillman Infirmary), 72, 123.
Biological Chemistry, 28².
Blake, S., 58, 75.
Blanchard, C. F., 58, 75.
Blanchard, J. A., 59, 80.
Bolles, F., Memorial (Be.), 64, 84.
Book Fund of the Class of 1881, 18, 42, 65, 97², 98, 126.
Books Lost, 97, 99, 110.
Boott, F. (Pr.), 64, 85, 92.
Borden (S.), 62, 81.
Botanic Department, 59, 85, 112, 126.
Botanic Garden, Cases, 61, 112, 112.
Botanic Garden and Botanic Museum, 24⁶, 33, 128.
 Tables, 12, 112, 112.
Bowditch (S.), 62, 81, 89.
Bowditch, J. I. (M.), 69, 106, 107.
Bowditch, J. I. (O.), 71, 118.
Bowditch, N. I. (B.), 65, 97, 98.
Bowdoin (Pr.), 64, 85, 92.
Boyden, U. A., 71, 113, 114, 126.
Boylston (P.), 59, 79.
Boylston, Elocution (Pr.), 65, 85, 92.
Boylston, W. N. (M., B.), 69, 106, 107.
Boylston, W. N. (M., Pr.), 71, 105, 107.
Bradford, S. D., 58, 75.
Bradley, W. L., 72, 111, 111.
Brattle, W. (Be.), 64, 84, 91.
Bright (B.), 65, 97, 98.
Bright (S.), 62, 81, 89.
Bright Legacy, 73, 81, 97, 98.
Brighton Marsh Fence, 72.
Brooks House, Phillips, 72, 121.
Brooks House, Phillips, 31, 37, 77, 121, 128.
 Funds, 72.
 Tables, 16, 121, 121.
Brown, J. B. and B., 69, 104.
Browne (S.), 62, 81, 89.
Buckley, D. A. (Be.), 44, 45, 49, 64, 84, 127.
Buckminster, M. W. (S.), 62, 81, 89.
Building, Gifts for (Dental School), 29, 71, 109.
Bullard Professorship of Neuropathology, 17, 42, 69, 104².
Burr (S.), 62, 81, 89.
Burr, R. D. (B.), 66, 101, 101.
Bursar's Sundry Accounts, 46, 47, 73, 126, 127.
Bussey (A.), 72, 111.
Bussey (P., D.), 66, 100.
Bussey, B. (P., L.), 67, 102.
Bussey, B., Trust, 39, 51, 73, 100, 102, 110, 124, 124.
Bussey Institution, 71, 110.
Bussey Institution, 33, 38, 128.
 Funds, 71.
 Tables, 11, 110, 110.
Buttrick, A. W. (Be.), 67, 100, 101.
Cabot, W. C., 64, 84, 91.
Carter, J. C. (U.), 17, 42, 58, 75².
Carter, J. C. (P., L.), 17, 42, 67, 102⁶.
Carter, J. C. Loan (L.), 20, 42, 67, 102².
Carter, J. W., 48, 58, 75.
Cary, T. (S.), 67, 100, 101.
Cercle Français de l'Université Harvard (F.), 21, 81, 89.
Certificate, Committees on the Treasurer's Accounts, 129.
Changes in the Funds, Table, 7.
Chapman, G. (S.), 67, 100, 101.
Cheever, D. W. (S.), 70, 105, 107.
Chemistry, 93, 96.
Child, F. J. (Memorial), 18², 42, 59, 79, 85, 92.
Choate, R. S. (S.), 62, 82, 89.
Clapp, J., 66, 100.
Clapp, J. (S.), 67, 100, 101.
Class of 1802 (S.), 62, 82, 89.
Class of 1814 (S.), 62, 82, 89.
Class of 1815, Kirkland (S.), 62, 82, 89.

- Class of 1817 (*S.*), 62, 82, 89.
 Class of 1828 (*S.*), 62, 82, 89.
 Class of 1834, 51, 72, 124.
 Class of 1835 (*S.*), 62, 82, 89.
 Class of 1841 (*S.*), 62, 82, 89.
 Class of 1844, 51, 72, 124.
 Class of 1846, 18, 42, 72, 124.
 Class of 1851, 65, 98.
 Class of 1851 (C. F. Dunbar), 65, 98.
 Class of 1852, Dana (*S.*), 62, 82, 89.
 Class of 1853, 39, 51, 72, 124, 124.
 Class of 1856, 39, 72, 124, 124.
 Class of 1856 (*S.*), 62, 82, 90.
 Class of 1867 (*S.*), 62, 82, 90.
 Class of 1877 (*S.*), 62, 82, 90.
 Class of 1880, 59, 79, 98, 113.
 Class of 1883 (*S.*), 62, 82, 90.
 Class Subscription, 59, 79.
 Classical Library, 61, 86, 93.
 Classical Publication Fund of the Class
 of 1856, 59, 85, 92, 126.
 Codman, E. W., 39, 44, 45, 49, 59, 80,
 124, 124, 127.
 College, 31, 38⁴, 128.
 Funds, 59, 60, 61.
 Tables, 8, 79, 89.
 Committee on the Publication of Aca-
 demic Distinctions, 20, 87, 94, 96.
 Comparative Medicine, School of, 70,
 106.
 Conant, E. (*D.*), 66, 100.
 Conant, E. (Library), 65, 97, 98, 98, 126.
 Constantius, 65, 97, 98, 98.
 Construction Accounts, 41, 128.
 Table, 125, 126.
 Construction Gifts (balances), 72.
 Coolidge, Debating (*Pr.*), 65, 85, 92.
 Coolidge, T. J., 49, 59, 120, 120, 127.
 Cotting Gift (*Be.*), 70, 105, 107.
 Cotton, T., 58, 75, 77.
 Cowdin, J., 58, 75.
 Croft, C. B., 28, 39, 69, 106, 107, 124,
 124.
 Crowninshield (*S.*), 62, 82, 90.
 Cryptogamic Herbarium, 59.
 Cuban Teachers, Gifts for, 41, 73, 125.
 Cudworth, W. H. (*S.*), 21, 62, 82, 90.
 Cummings, F. H. (*S.*), 62, 82.
 Dana, Class of 1852 (*S.*), 62, 82, 89.
 Dane (*P.*), 67, 103.
 Danforth, T. (*Be.*), 64, 84, 91.
 Dante (*Pr.*), 65.
 Day, M. (*Be.*), 64, 84, 91.
 Delano, W. Jr., Loan (*S.*), 22, 68, 82.
 Denny (*B.*), 65, 97, 98.
 Dental School, 33, 38⁴, 40³, 128.
 Funds, 71.
 Tables, 11, 109, 109.
 Dental School (balance), 71, 109.
 Dental School, Building, 29⁷, 71, 109.
 Dental School Endowment, 71, 109.
 Dental School Real Estate (balance), 71.
 Derby, G. and M. (*S.*), 62, 82, 90.
 Dexter, J. (*S.*), 62, 82, 90.
 Dexter Lectureship, 66, 100.
 Dillaway, G. W. (*F.*), 61, 81, 89.
 Disbursements and Receipts, General
 Statement, 30.
 Divinity School, 33, 38², 40, 128.
 Funds, 66, 67.
 Library, 28.
 Tables, 10, 100, 101.
 Divinity School (balance), 67, 100.
 Doe, O. W. (*C., S.*), 62, 82, 90.
 Doe, O. W. (*M., S.*), 70, 105, 107.
 Dormitories:
 College, 31, 38, 88, 96.
 Divinity School, 38, 101.
 Dorr, G. B., 48, 58, 75.
 Draper, G., 48, 58, 75.
 Draper Memorial, 24, 71, 114, 114.
 Dudley, P., 59, 79.
 Dunbar, C. F. (Class of 1851), 65, 98.
 Eaton (*P.*), 39, 44, 49, 59, 79, 124, 124.
 Economics, 28², 86, 93, 126.
 Eddy, R. H., 48, 58, 75.
 Education, Library, 23, 86, 93, 127.
 Eliot (*P.*), 49, 59, 79.
 Eliot, Jon. Phillips' Gift (*P.*), 59.
 Eliot, W. S. (*S.*), 62, 82, 90.
 Ellery, J. (*Be.*), 64, 84.
 Ellis, C. and L., 39, 50, 69, 104, 124, 124.
 Ellis, C. and L. (Aid), 39, 51, 73, 79,
 84, 92, 124.
 Ellis, H., 58, 75.
 Embryological Laboratory, 28.
 Emerson, G. H. (*S.*), 19, 39, 40, 42, 67,
 79, 82, 90, 124, 124.
 Emerson Hall (Construction), 41, 72,
 125, 126, 126.

- Emerson Hall (Furnishing),** 61, 87, 94.
Emerson Hall (Furnishings, Social Ethics), 61, 87, 94.
Emperor William, 19th, 42, 68, 118².
Engineering (Electrical Apparatus), 61.
Engineering (P.), 68.
Engineering (S.), 92.
Erving (P.), 59, 79.
Ethics, Social, 61², 87, 93, 94.
Eveleth, J. (S.), 62, 82, 90, 105, 107.
Exhibitions (Be.), 64, 84, 92.
Expenses and Income (General Statement), 80.
Experimental Phonetics, 94.

Fabyan, G., Foundation for Comparative Pathology, 18, 42, 69, 104², 106, 107.
Fabyan, G. (P.), 69, 104.
Fabyan, G., Addition of 1903 (P.), 69, 104.
Fabyan, G. F., Addition of 1906, 18, 69, 104.
Fall River (S.), 62, 82, 90.
Farrar, E. (B.), 65, 97, 98.
Farrar (S.), 62, 82, 90.
Fees:
 Examination, 88², 87, 106, 109.
 Graduation, 88, 87, 106.
 Hemenway Gymnasium, 40, 122.
 Infirmary (Dental School), 109.
 Laboratory, 88², 87, 106, 109.
 Library, 98.
 Matriculation, 88, 106.
 Microscopes, 40, 106, 109.
 Repaid to Instructors, 33, 108², 109.
 Stillman Infirmmary, 40, 123.
 Tuition, 88¹¹, 87, 100, 101², 103, 106, 109, 110.
Fellowships:
 Funds, 61, 70.
 Receipts, 21², 80, 81, 105, 109, 116.
 Payments, 31, 33, 89, 107, 109, 117.
Fines (B.), 88, 97, 99, 101.
Fisher (P.), 59, 79.
Fisher, G. (S.), 20, 22, 42, 67, 102, 103.
Fitch, T. (Be.), 64, 84, 92.
Fitz, S. E., 69, 104.
Flynt, E. (Be.), 64, 84.
Flynt, H. (Be.), 64, 84.
Flynt, H. (for Tutors), 39, 59, 79, 124, 125.

Fogg Art Museum, 31, 37, 77, 126, 128.
 Funds, 72.
 Tables, 15, 119, 119.
Fogg Art Museum (balance), 72, 119.
Fogg, W. H., 72, 119, 119.
Foster, J. (Be.), 70, 73, 105.
Foster, R. W., 18, 42, 58, 75².
Free Bed Fund of the Class of 1868, 72, 123.
Free Bed Fund for Stillman Infirmmary, 72, 123.
French, J. D. W., 48, 58, 75.
French, Library, 93.
Frothingham (P.), 66, 100.
Fuller, A. W., 66, 100.
Funds and Balances, Table, 58.
Funds in Trust for Purposes not Connected with the College, 73.

Gains from changes of investments:
 General, 5, 127.
 Special, 6, 127.
Gains and Losses for General Investments, 5², 73, 127.
Gambrill, R. A. (S.), 62, 82, 90.
Gardner, G. A., 67, 86, 92.
Garrison, L. McK. (Pr.), 65, 85, 92, 126.
Germanic Museum, 19th, 26², 31, 35, 77, 118, 118, 128.
 Funds, 68.
 Tables, 14, 118, 118.
Germanic Museum (Collections), 61.
Gibbs, H. (Be.), 64, 84.
Gibbs, V. B. (S.), 68, 115, 115.
Gifts received for
 Funds (capital), 7, 17-20, 42.
 Immediate use, 20-29, 40, 112, 113.
Glover, J. (Be.), 64, 84.
Godkin Lecture, 59, 79.
Goodwin, C. H. (S.), 62, 82, 90.
Goodwin, O., Memorial (F.), 61, 81.
Gore, 58, 75.
Gospel Church, 59, 79, 124.
Gould, L., 66, 100.
Graduate School of Applied Science,
 Funds, 68.
Graduate School of Applied Science (S.), 22².
Gray (Engravings), 72, 119, 119.
Gray, A. (Copyrights), 40, 113.

- Gray, A. (Memorial), 59, 118.
 Gray, A. (P.), 59, 79.
 Gray Herbarium, 24³², 26³⁰, 35, 128.
 Tables, 12, 118, 113.
 Gray Herbarium (balance), 59, 118.
 Gray, J. C., 48, 58, 75.
 Gray, Zoölogical Museum, 68, 115.
 Greene, B. D. (S.), 62, 82, 90.
 Greenleaf, P., 44, 45, 52, 73, 82, 84, 90,
 82, 97, 98, 98, 127.
 Greenleaf, P. (Aid) (Be.), 64, 84, 92.
 Greenleaf, P. (B.), 65, 97, 98, 98.
 Greenleaf, P. (S.), 62, 82, 90.
 Greenough, F. B., 69, 106.
 Gurney, 39, 59, 79, 124, 125.
 Gymnasium, see Hemenway.
- Hale, G. S. and E. S., 59, 86.
 Hall, L. J., 66, 101, 101.
 Hancock, C. L., 39, 40, 51, 66, 100, 124,
 125.
 Hancock, J. (P.), 66, 100.
 Harlow, E. A. W. (Be.), 64, 84.
 Harris (F.), 61, 81, 89.
 Harris, C., 71, 118.
 Harris, H., 73, 75, 104.
 Harvard Club of Buffalo (S.), 21, 62,
 82, 90.
 Harvard Club of Chicago, 21, 82, 90.
 Harvard Club of San Francisco, 22, 82,
 90.
 Harvard Club of St. Louis, 22, 82, 90.
 Harvard Dental Alumni, 29, 71, 109.
 Harvard Dining Association, 46, 47.
 Harvard Memorial Society, 73, 124.
 Harvard Oriental Series, 59, 86, 93.
 Hastings, W., 48, 58, 75.
 Haven (D.), 66, 100.
 Haven (O.), 71, 114.
 Haven, H. A. (B.), 65, 97, 98.
 Haven, J. A. (S.), 62, 82, 90.
 Hayden, L. and H. (S.), 70, 105, 107.
 Hayes, F. B. (B.), 65, 97, 98.
 Hayward, G. (B.), 65, 97, 98.
 Hayward, J., 71, 114.
 Heating Plant, Use of, 116, 118.
 Hemenway (F.), 68, 116, 117.
 Hemenway Gymnasium, 31, 37, 40², 34,
 128.
 Tables, 16, 122, 122.
 Herbarium, 59, 118.
- Hersey (P.), 59, 79, 104.
 Hersey, Thomas Lee's Gift (P.), 59, 79.
 Higginson, G. (P.), 69, 104.
 Higginson, H. L., 18, 42, 58, 75².
 Hilton, W. (S.), 62, 82, 90, 105, 107.
 History and Government (Pr.), 22.
 Hoar, E. R. (S.), 62, 82, 90.
 Hoar, L. (S.), 63, 82, 90.
 Hoar, S., 66, 100.
 Hodges (S.), 63, 82, 90.
 Hodges, R. M. (Library), 65, 99, 126.
 Hollis (S.), 63, 82, 90.
 Hollis, Divinity (P.), 60, 79.
 Hollis, Mathematics (P.), 60, 79.
 Hollis, T. (B.), 65, 97, 98.
 Holyoke, E. (Be.), 64, 84.
 Homer, S. (B.), 65, 97, 98.
 Hooper, E. W. (F.), 61, 81, 89.
 Hooper, S. (P.), 68, 115, 115.
 Hopkins, E. (Pr.), 40, 65, 85, 92.
 Horticultural Department, 110, 111.
 Houses, Use of, 76, 110, 112, 114.
 Hughes Loan, 20, 42, 67, 102, 108, 108.
 Humboldt, 68, 115.
 Humphrey, H. B. (S.), 63, 82, 90.
 Hunnewell, W. P., 68, 115.
 Hyde, G. B., 58, 75.
 Hygiene (P.), 39, 49, 60, 80, 124, 125.
- Income,
 Rate of dividing, 5.
 Remainder, 5.
 Table, 30.
- Infirmity, Stillman, 123, 123.
 Ingersoll Lecture, 60, 79, 86, 83.
 Insurance Awards, 88.
 Insurance and Guaranty, 39, 48, 58, 75,
 124, 125.
 Inter-Municipal Comm. on Household
 Research, 21, 81, 89.
 Interest (Tuition in Advance), 88, 100,
 103, 105, 109, 110.
 Investments held July 31, 1906,
 General, 6, 53-57.
 Special, 6, 48-52, 58.
- Jackson Foundation (S.), 67, 101, 101.
 Jackson, Addition of 1908 (P.), 69.
 Jackson, H., Endowment, 69, 104.
 Jackson Professorship of Clinical Medi-
 cine, 69, 104.

- Jarvis (*B.*), 65, 97.
 Jarvis, L., 58, 75.
 Jefferson Physical Laboratory, 31, 37, 94, 128.
 Tables, 15, 120, 120.
 Jefferson Physical Laboratory (balance), 60, 120.
 Jennings, H. (*S.*), 67, 83, 90.
 Jones, C. L. (*S.*), 63, 83, 90.
 Jones, C. M. (*S.*), 70, 105, 107.
 Keayne, R. (*Be.*), 64, 84, 92.
 Kendall, J. H. (*S.*), 67, 101, 101.
 Kendall, N. (*S.*), 67, 101, 101.
 Kidder, H. P. (*D.*), 66, 100.
 Kidder, H. P. (*U.*), 58, 75.
 Kimball, B. (*Be.*), 64, 84, 92.
 Kirkland, Class of 1815 (*S.*), 62, 82, 89.
 Kirkland, J. T. (*F.*), 61, 81.
 Land, Use of, 76.
 Landscape Architecture, 93, 96.
 Langdell Hall (Construction), 41, 126.
 Lane, F. A. (*B.*), 65, 97, 98.
 Law School, 33, 38, 128.
 Funds, 67.
 Tables, 10, 102, 103.
 Law School (*B.*), 67, 108, 103.
 Law School (balance), 67, 102.
 Law School Library, 23, 67, 103.
 Lawrence, A., 67, 79.
 Lawrence, J., 67, 79.
 Lawrence Scientific School Association (*S.*), 22, 83, 90.
 Lawrence Scientific School Funds, 67, 68.
 Lawrence Scientific School, Loans Repaid, 68, 84, 92.
 Lectures, 20, 80.
 Lee, E. C. (*M.*), 69.
 Lee, H. (*P.*), 60, 80.
 Lee, H., Memorial (*F.*), 61, 81, 89.
 Lee, J., 48, 58, 75.
 Lee, T. (*Hersey P.*), see Hersey.
 Lee, T. (Reading), 60, 80.
 Library, 22¹⁰, 23¹¹, 24², 31, 38, 40, 128.
 Funds, 65, 66.
 Tables, 9, 97, 98.
 Library Building, 73, 125.
 Libraries, Special Reference, 87.
 Lienow, H., 66, 100.
 Lindall, M. (*Be.*), 64, 84, 92.
 Linder, A. H. (*S.*), 71, 105, 107.
 Losses from change of investments.
 General, 5.
 Special, 6, 127.
 Lovering, J., 60, 120, 120.
 Lowell (*B.*), 65, 97, 98.
 Lowell (Botanic Garden), 60, 112.
 Lowell, G. E. (*S.*), 63, 83, 90.
 Lowell Memorial Library, 93.
 Lunar Photographs (Publishing), 71.
 Lyman, A. T., 60, 80.
 Lyman, S. B. (*Be.*), 64, 84, 92.
 Lyman, S. B. (Loan), 64.
 Lyman, S. B. (Loan, L. S. S.), 68.
 Lyman, T., 58, 75.
 McLean (*P.*), 60, 80.
 Markoe (*S.*), 63, 83, 90.
 Mathematics, 23, 86, 95.
 Matthews (*S.*), 63, 83², 90.
 Medical Library, 69, 106.
 Medical School, 29, 33, 38², 40, 126, 128.
 Funds, 69, 70, 71.
 Real Estate (special), 70.
 Tables, 10, 104, 107.
 Medical School (balance), 69, 104.
 Medical School Undertaking, 29, 33, 125, 126, 126.
 Memorial Hall and Sanders Theatre, 24, 77.
 Merriam, C., 66, 100.
 Merrick (*S.*), 63, 83, 90.
 Mills, A. (*Be.*), 64, 84.
 Mineralogy and Petrography, 83, 96.
 Mining and Metallurgy, 21².
 Museum, 86.
 Minot, C. (*B.*), 65, 97, 98.
 Morey (*S.*), 63, 83, 90.
 Morgan, H. T., 58, 98.
 Morgan, J. P., 29, 125.
 Moseley, W. O. (*P.*), 70, 105.
 Mowison, Lady (*S.*), 63, 83, 90.
 Munroe (*Be.*), 64, 85, 92.
 Munson, I., 58, 75.
 Museum of Classical Archaeology, 24¹.
 Museum of Comparative Zoölogy, 28, 31, 35, 94, 128.
 Funds, 68.
 Tables, 13, 115, 115.
 Museum of Comparative Zoölogy (balance), 68, 115.
 Music Department, 24², 60, 86, 93, 96.

- Neuropathology, 28.
 New Endowment (*D.*), 66.
 New Subscription (*M.*), 70, 105.
 Nichols, H. G. (*S.*), 63, 83, 90.
 Noble, W. B., 60, 80.
 Normal Scholarships, 91.
 Norton, C. E. (*B.*), 65, 97, 98.
 Norton, C. E. (*F.*), 49, 61, 81, 89.
 Nourse, H. S., 39, 44, 48, 58, 75, 124, 125, 127.
 Observatory, 24, 35, 128.
 Funds, 71.
 Tables, 18, 113, 114.
 Observatory Endowment, 71, 114.
 Office Expenses, 76, 96.
 Oliver, J. P. (*S.*), 71, 105, 107.
 Osgood, L. (*B.*), 65, 97, 98.
 Osgood, L. (*S.*), 63, 83, 90.
 Osgood, M. (*B.*), 65, 97, 98.
 Other Funds for Special Purposes, 72.
 Overseers' Expenses, 76.
 Paine (*P.*), 71, 114.
 Paine, Robert Treat (*F.*), 61, 81, 89.
 Paine, Robert Treat (*O.*), 71, 114.
 Paine, Robert Troup, 45, 51, 73, 124.
 Palestine (Excavations), 35, 73, 117, 117.
 Palfrey Exhibition (*Be.*), 64, 85, 92.
 Parker, F. E., 48, 58, 75.
 Parker, J. (*F.*), 61, 81, 89.
 Parkman (*P.*), 66, 100.
 Parkman, F. (*F.*), 20, 42, 61, 79, 81.
 Pathology, Department of, 28.
 Nervous System, 28.
 Research, 28.
 Pathological Laboratory, 70, 125, 126.
 Pathological Library, 28⁴, 70, 107.
 Peabody (*P.*), 35, 51, 68, 116.
 Peabody, A. P., Memorial (*Be.*), 64, 85, 92.
 Peabody Building, 51, 68, 116.
 Peabody Collection, 51, 68, 116.
 Peabody, F. G., 60, 80, 86, 93.
 Peabody, G. F. (*S.*), 49, 63, 83, 90.
 Peabody Museum of American Archaeology and Ethnology, 26², 31, 35, 68, 77, 126, 128.
 South American Expedition, 26.
 Funds, 68.
 Tables, 14, 116, 117.
 Peirce, D. H., 60, 80.
 Pennoyer (*S.*), 63, 83, 91.
 Perkins (*P.*), 60, 80.
 Perkins, R. A. (*S.*), 63, 83, 91.
 Perkins, W., 58, 75.
 Permanent, 68, 115.
 Permanent Tutors, 59, 79.
 Peters, E. D. (*S.*), 22, 68, 83.
 Philadelphia (*S.*), 63, 83, 91.
 Phillips, E. B., 71, 114.
 Phillips, J., 60, 80.
 Phillips, J. (*Eliot P.*), 59, 79.
 Phillips, W., Memorial (*S.*), 63, 83.
 Philosophical Library, 23, 86, 94.
 Physical Laboratory, 60, 120.
 Physical Research, 61, 120.
 Physiology, 29.
 Pierce, H. L., 58, 97, 98, 99.
 Pierce, H. L. (Residuary) (*M.S.*), 70, 105.
 Pierce, H. L. (Residuary), 9, 48, 58, 75, 98, 115.
 Plantation of Shrubs, 61, 87.
 Plummer (*P.*), 60, 80.
 Political Economy, see Economics.
 Political Economy, Lectures on, 60, 79.
 Pomroy, W. (*Be.*), 67, 101, 101.
 Pope (*P.*), 60, 80.
 Porter, C. B. (*S.*), 71, 105, 107.
 Premium on Bonds, Repayments, 5, 46.
 President's, 58, 75, 77.
 Prichard, W. M., 72, 119, 119.
 Printing Office, 96.
 Prizes :
 Funds, 64, 65, 71.
 Receipts, 22, 85.
 Payments, 31, 33², 92.
 Proctor, 70, 106, 107.
 Psychological Laboratory (Equipment), 87, 94.
 Public Buildings (*C.*), 31, 95.
 Quinby, J. W., 66, 100.
 Quincy, J., 71, 114.
 Randall Hall Association, 46, 47.
 Randall, J. W., 72, 119, 119.
 Randall, J. W. and B. L., 72, 121, 121.
 Rate of dividing income, 5.
 Receipts and Disbursements, General Statement, 80-46, 31-47.
 Religious Services, 59, 121.
 Repayments, 88.
 Retiring Allowance, 58, 75, 77.

- Retiring Allowances, 31, 77, 108.
 Ricardo Prize (*S.*), 22, 63, 83, 91.
 Richmond, A. C., 66, 100.
 Riverside, 48, 58.
 Robinson Hall, Equipment, 24.
 Robinson, N., Jr., 42, 45, 49, 60, 80, 81, 86, 89, 93^e.
 Robinson, N., Jr., Additional, 18, 60, 79.
 Rockefeller, J. D., 70, 125.
 Rodger (*S.*), 63, 83.
 Rogers (*F.*), 61, 81, 89.
 Rogers, H. B. (*S.*), 63, 83, 91.
 Rogers, H. B., Memorial (*F.*), 61, 81.
 Rooms, Use of, 96.
 Rotch, A., 68, 80.
 Royall (*P.*), 67, 103.
 Rumford (*P.*), 60, 80.
 Ruppner, Dr., 70, 105.
 Russell, E. (*S.*), 63, 83, 91.
 Russell, J. L. (Botanic Garden and Gray Herbarium), 60, 112, 113.
 Russell, J. L. (*D.*), 66, 100.
 Russell, J. L. (*U.*), 58, 75.

 Salaries, Gifts for, 20⁴, 24³, 28³, 29, 61, 80.
 Salaries, Payments, 31³, 35^e, 35³, 37⁴, 77, 95, 99, 101, 103, 107, 109, 110, 111, 113, 114, 115³, 117.
 Sales (*Pr.*), 65, 85, 92.
 Sales (Receipts), 85, 88¹⁵, 97, 98³, 103, 106, 109³, 110³, 111, 113³, 114³, 115, 119.
 Sales (*S.*), 63, 83, 91.
 Sales, F. (*B.*), 65, 97, 99, 127.
 Salisbury, S. (*B.*), 65, 97, 99.
 Saltonstall (*S.*), 63, 83, 91.
 Saltonstall, G., 60, 80.
 Saltonstall, L. (*S.*), 63, 83, 91.
 Saltonstall, M. (*S.*), 63, 83, 91.
 Sanskrit Department, 61.
 Sargent, J. O. (*Pr.*), 65, 85, 92.
 Savage, J. (*S.*, *L.*, *O.*), 73, 83, 91, 98, 114.
 Sawin, G. W., 60, 86, 93.
 Sayles, R. W. (*C.*), 19, 42, 60, 79, 86.
 Schlesinger, B., 60, 93, 126.
 Scholarships:
 Funds, 62, 67, 68, 70.
 Receipts, 20, 21⁴, 22⁷, 81, 82, 83, 84, 100, 101, 105.
 Payments, 31, 31³, 89, 90, 91, 101, 107.
 Scholarship and Beneficiary Money Returned (*Be.*), 64, 85³, 92.
 Scholarship Money Returned (*Law*), 67, 103, 103.
 School of Comparative Medicine, 70, 106.
 Schurz, H., Memorial Free Bed, 72, 123.
 Searle, M. R., 58, 119, 119.
 Sears, D. (*O.*), 71, 114.
 Semitic Building, 41, 72, 126.
 Semitic Collection, 27, 73, 117, 117.
 Semitic Library, 61, 86, 93.
 Semitic Museum, 27³, 31, 35, 77, 128.
 Tables, 14, 117, 117.
 Sever (*B.*), 65, 97, 99, 126.
 Sever (*S.*), 63, 83, 91.
 Sewall (*S.*), 63, 83, 91.
 Sewall, J. (*Be.*), 64, 85.
 Shapleigh, S. (*B.*), 65, 97, 99.
 Shattuck (*S.*), 63, 83, 91.
 Shattuck, Addition of 1902 (*P.*), 70.
 Shattuck, G. C. (*P.*), 50, 70, 105.
 Shattuck, G. C., Memorial (*F.*), 70, 105, 107.
 Shattuck, H. L., 21.
 Shepard, R. H., 72, 121.
 Shepard, R. H. (Memorial), 72, 121.
 Simpkins, J., Laboratories, 41, 72, 126.
 Skinner, F., 17, 42, 72, 111³.
 Slade (*S.*), 63, 83, 91.
 Smith (*P.*), 60, 80.
 Smith, D. (*S.*), 63, 83, 91.
 Smith, G., 39, 44, 49, 51, 73, 124, 125, 125, 127.
 Social Ethics (Furnishings), 61, 87, 94.
 Social Ethics, Study of, 61, 93.
 Social Questions Library, 93.
 Society for Promoting Theological Education, 101.
 Social Workers, School for, 60, 38, 87, 93.
 Sohler, G. B. (*B.*), 66, 97, 99.
 Sohler, G. B. (*Pr.*), 65, 85, 92.
 Soldier's Field, The; Improvement and Additions, 29, 41, 125, 126, 127.
 South American Expedition, 26, 116.
 South End House (*F.*), 21⁶, 61, 81, 89.
 Spackman, W. M., 60, 80.
 Spooner, W. B., 66, 100.
 Squam Lake Camp, 21, 40, 87, 88⁴, 94.
 Stadium, 41, 126.
 Stickney, J., 60, 80.

Stillman Infirmary, 72, 123, 123, 126.

Stillman Infirmary, 39, 40, 41, 123^a, 128.

Funds, 72.

Tables, 16, 123, 123.

Stillman Infirmary (balance), 72.

Stillman Infirmary (Contagious Ward), 73.

Stillman, J. (P.), 70, 105.

Story (S.), 63, 83, 91.

Story, A., 71, 114.

Stoughton (S.), 49, 63, 83^a.

Strong, C. P. (S.), 71, 105, 107.

Students, Receipts from, 38, 40, 87, 88, 106, 109, 110, 123.

Subscription for Library (B.), 66, 97, 99.

Sugar Cane Investigations, 24, 61, 112, 112.

Sullivant's Icones, 118.

Summaries:

Investments and Income, 6.

Tables, 128.

Summer Schools, 31, 40, 94.

Sumner, C. (B.), 66, 97, 99.

Sumner, C. (Pr.), 65, 85.

Sundry Accounts, 128.

Table, 127, 127.

Sundry Balances (L.), 66.

Sundry Balances (Sundry Funds), 73, 127.

Sundry Gifts (balances), 61.

Sundry Gifts for books (balances), 66.

Sundry Funds, 73.

Sundry Funds for Special Purposes, 72, 85, 86, 92, 93, 106, 107.

Table, 124, 124.

Surgical Laboratory, 70, 106, 107.

Surgical Laboratory, 29.

Sweetser, I. (M., S.), 71, 105, 107.

Sweetser, I. (U.), 58, 75.

Swett, M. W., 70, 105.

Swett, S. W., 70, 105.

Swift (S.), 63, 83.

Tables:

Appleton Chapel, 15, 120, 121.

Arnold Arboretum, 12, 111, 111.

Botanic Garden and Botanic Museum, 12, 112, 112.

Phillips Brooks House, 16, 121, 121.

Bussey Institution, 11, 110, 110.

Changes in the Funds, 7.

College, 8, 79, 89.

Construction Accounts, 125, 126.

Dental School, 11, 109, 109.

Divinity School, 10, 100, 101.

Fogg Art Museum, 15, 119, 119.

Funds and Balances, 58.

Germanic Museum, 14, 118, 118.

Gray Herbarium, 12, 113, 113.

Hemenway Gymnasium, 16, 122, 122.

Jefferson Physical Laboratory, 15, 120, 120.

Law School, 10, 102, 103.

Library, 9, 97, 98.

Medical School, 10, 104, 107.

Medical School Undertaking, 126, 127.

Museum of Comparative Zoölogy, 13, 115, 115.

Observatory, 13, 113, 114.

Peabody Museum, etc., 14, 116, 117.

Semitic Museum, 14, 117, 117.

Stillman Infirmary, 16, 123, 123.

Summary, balanced, 128.

Sundry Accounts, 126, 127.

Sundry Funds for Special Purposes, 124, 124.

University, 8, 75, 76.

Taylor, J. T. (S.), 71, 105, 107.

Taylor, K. M. (B.), 66, 97, 99.

Teachers' and Pupils', 68, 115.

Teachers' Endowment, 19, 21, 42, 45, 50, 60, 79, 80.

Thaw (F.), 51, 68, 116, 117.

Thayer (S.), 63, 83, 91.

Thayer, A. W. (Be.), 39, 64, 85, 124, 125.

Thayer, J. E., 60, 86, 93.

Theory and Practice, Anonymous Fund in the Department of, see Anonymous.

Thomas, G. (S.), 63, 83, 91.

Thorndike, W. H. (Pr.), 71, 105.

Tileston, T., 66, 100.

Toppan (S.), 63, 83, 91.

Toppan, R. N. (Pr.), 65, 85, 92.

Torrey, E., 60, 86, 93.

Torrey, H. W., 60, 86, 93.

Townsend (S.), 63, 84, 91.

Townsend, M. P., 67, 100.

Treadwell, D., 66, 97, 98, 99.

- Tucker, I. (*B.*), 50, 66, 97, 99.
 Tufts, Q. (*Be.*), 64, 85, 92.
 Tufts, Q. (*M.*), 70, 105.
 Turner, S., 58, 75.
 Twenty-fifth Anniversary Fund of the
 Class of 1881, 18, 42, 60, 79, 80.
 Tyndall, J. (*F.*), 61, 81, 89.
 University, 31, 128.
 Funds, 58.
 Scholarships, 91².
 Tables, 8, 75, 76.
 Unknown Memorial, 60, 80, 86, 93.
 Unrestricted Gift, Germanic Mus., 68.
 Villard, H., 48, 61, 80.
 Wadsworth, B. (*Be.*), 64, 85.
 Walcott (*S.*), 63, 84, 91.
 Walcott, H. P., 72, 123.
 Wales (*P.*), 50, 61.
 Wales, H. W. (*B.*), 66, 80, 97, 99.
 Walker, J. (*B.*), 66, 97, 99.
 Walker, J. (*F.*), 61, 81, 89.
 Ward, S., 50, 61, 123.
 Ward, T. W. (*B.*), 66, 97, 99, 127.
 Ward, W., 67, 100.
 Ware, C. E., Memorial (*F.*), 70, 105, 107.
 Ware, J., Memorial (*F.*), 70, 105, 107.
 Warren (Anatomical Museum), 33, 70,
 106, 107.
 Warren, C. M., 61, 86, 93.
 Warren, H. C. (*C.*), 61, 80, 86, 93.
 Warren, H. C. (Dental School), 71, 109.
 Warren, H. C. (Exploration), 68, 116,
 117.
 Warren, S. C., 68, 116.
 Washburn, P. (*Pr.*) 65, 85, 92.
 Waterhouse, S., 61, 80.
 Weld (*P.*), 67, 103.
 Weld, C. M. (*S.*), 63, 84, 91.
 Weld, W. F., 48, 58, 75.
 Wells, D. A. (*P.*, *Pr.*), 46, 65, 80, 85,
 127.
 Wendell, J. (*S.*), 63, 84, 91.
 Wheeler, I. S., 61, 120.
 Wheeler, S. W. (*Be.*), 68, 85².
 Wheelock, J., 19, 42, 61, 79, 80.
 Whiting (*F.*), 61, 81, 89.
 Whiting (*S.*), 63, 84, 91.
 Whitney, J. D. (*S.*), 63, 84, 91.
 Whitney, M. L. (*S.*), 40, 63, 84, 91.
 Wigglesworth, E. (*S.*), 71, 105, 107.
 Wilder, C., 39, 70, 124, 125.
 Williams, D., 39, 73, 124, 125.
 Williams, H. W. (*P.*), 70, 105.
 Winn (*P.*), 67, 100.
 Winslow, S., 39, 73, 76, 124, 125.
 Winthrop, R. C. (*S.*), 68, 116, 117.
 Wolcott, H. F., 68, 116, 117.
 Wolcott, J. H. (*B.*), 66, 97, 99.
 Woodland Hill, 41, 51, 71, 124, 125, 126.
 Wright, C., 61, 86.
 Wright, E., 66, 98.
 Wyman, C. (*S.*), 63, 84, 91.
 Zoölogical Laboratory Contributions, 23,
 86, 93, 95.

OFFICIAL REGISTER OF HARVARD UNIVERSITY

*[Entered, March 24, 1906, at Boston, Mass., as second-class matter,
under Act of Congress of July 16, 1894.]*

**Issued at Cambridge Station, Boston, Mass., twice a month from September to
March (except November) inclusive, six times a month from
April to August inclusive.**

These publications include :—

The Annual Reports of the President and of the Treasurer.

The Annual University Catalogue.

The Annual Catalogues of the College and the several Professional Schools of the University; the Announcements of the several Departments; etc., etc.



